



Systema Medicinale,
A
COMPLETE SYSTEM
OF
PHYSICK,
Theorical and Practical.
In Six Books.

Containing the Names, Definitions, Differences,
Parts affected, Signs, Causes, Prognosticks, and Va-
rious Methods of Curing all the Principal Diseases,
happening to the Bodies of

Men, Women, and Children.

Translated out of Latin into English, out of the most
Learned *John Doleus*, being a Summary of the Ancient and
Modern Way of Practice, collected chiefly from *Hippocrates*,
Galen, *Paracelsus*, *Helmont*, *Willis*, *Sylvius*, *Cartesius*, and others;
wherein both the *Galenick* and *Chyrnick* Methods are particular-
ly and specially Explicated and Exemplified: Brought into this
portable Volume for the Publick Good.

Whereunto is Annexed

A Prefatory Discourse concerning the Method of Stu-
dy and Practising Physick; and other Accommodations re-
lating to the same.

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of Physick, living at the Blew Balcony by the Ditch-side, near
Holborn-Bridge, LONDON.

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THE PREFACE.

I. **W**Hat we are to inform the Reader of here, are principally two things: the one is concerning the Original of this Work: the other concerning the method of studying and practising the Art of Physick and other Accommodations relating to the same.

II. The Author hereof was one John Dolæus, Doctor of Physick, and a German Vertuoso, one of that Society which has published the German Ephemerides; a Work much like our Philosophical Transactions of the Royal Society. He was also Physician to the Landgrave of Hesse, and in his own Person accompanied that Illustrious Prince, in the Famous Expedition to raise the Siege of Vienna.

III. As to the Work, we shall leave it to speak for it self, being founded upon the Divine Hippocrates, and his Interpreter Galen, and compleated from the Advancements of Paracelsus, Helmont, Sylvius, Cartesius, Willis, and their Followers; besides the Author's own Experience, who with an exact Judgment has given you the Sum of the old and new Physick, the Galenical and Chymical Theory and Practice. So that having this one Author, you have a Library, and the Sum of all you can expect from

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so many Volumes. And he has been so ample upon some Diseases, that he has laid (as it were) the Foundations of the Art therein, and given you an Exemplar, how to do the like in others.

IV. Here is also given a Solution of the Cause of Diseases, according to the Cartesian Principles, which I confess, I have not met with else where, in other Authors. And although you will find herein much new matter, yet nothing, but what is confirmed by the Suffrage of Great Judgments, and the most Learned Men of this latter Age.

V. The next thing which we are to instruct you in, is, The Method of studying and practising Physick; which because we cannot so well do, unless we render you an Account of the whole Art, and of its Parts, be pleased to take it in the following Words.

VI. Physicians have divided the Art, some into five Parts, viz. Physiologia, Pathologia, Semiotica, Hygieine, and Therapeutica: Some but into four Parts, viz. Physiologia, Pathologia, Hygieine, and Therapeutica: Others but into three Parts, viz. into the Physiologicks, the Pathologicks, and the Therapeuticks, which last Division, best suits with our intended Method.

VII. *επιστολογικὴ*, in Rerum naturalium Contemplatione Versatur; wherein is considered the Anatomicks; 1. In the Structure of the Humane Body. 2. In the Physical state of the same.

VIII. Anatomie, or the Structure of Man's Body, is a complete description thereof, representing in a proper method, both with fit Words and curious Figures, the exquisite Idea of the whole Humane Frame. The Order whereof in few Words, we have already

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already done in a particular Treatise at the latter end of our Synopsis Medicinæ, the latter Edition.

IX. The Physical State of the same, is considered in the disquisition of all natural things relating to the aforesaid Compositum, in respect of Formation, Structure, Composition, Preservation, Agitation, Affections, and Dissolution; wherein also is considered, 1. The Materia Medica. 2. The Parascuologia.

X. The Materia Medica, is considered in a threefold respect, as it has relation to the threefold Kingdom; viz. Vegetable, Mineral, and Animal.

XI. Botonologia, or Phytologia, is that which teaches the Figures, Names, Kinds, Descriptions, Differences, Places, Times, Temperature, Appropriations, Virtues, Uses, Qualities, and various Preparations of Vegetables; as they have relation, 1. To English Herbs and Plants. 2. To English Trees and Shrubs. 3. To Exoticks, so many as we use in Physick. The which we have already completely performed, in a Folio Herbal now in the Press.

XII. Minerologia, is that which teaches the Names, Kinds, Choice, Growth, Virtues, Use, Qualities, and various Preparations of all Mineral Bodies, viz. of Earth, Stones, Salts, Sulphurs, Excrements of Metals, Semi-metals, and Metals.

XIII. Zoologia, is that which teaches the Icons, Names, Kinds, Descriptions, Place, Virtues, Uses, Qualities, and Preparations of all Kinds of Animals, viz. of Birds, Beasts, Serpents, Fishes, and Insects.

XIV. The Parascuologia, is considered as it has
A 4 relation

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relation, 1. To the Preparation of Medicines, 2. To the Medical Store.

XV. The Preparation, is that which teaches the various ways of fitting, preparing, and making up of Medicaments, according to the Galenick, Chymick, and Rational Methods, and that from the whole Materia Medica, whether Vegetable, Mineral, or Animal.

XVI. The Galenick Method, teaches the way of Preparation of all sorts of Medicaments from the whole Materia Medica, which are, I. Internal, as, 1. Infusions. 2. Decoctions. 3. Emulsions. 4. Syrups. 5. Juleps. 6. Lohochs. 7. Quiddonies. 8. Preserves. 9. Conserves. 10. Sugars. 11. Powders. 12. Electuaries. 13. Pills. 14. Troches. II. External, as, 1. Lotions. 2. Oyls. 3. Balsams. 4. Ointments. 5. Cereloths. 6. Emplasters. 7. Cataplasms. 8. Clysters.

XVII. Chymistry, teaches the way of the Preparation of various kinds of Medicines from the whole Materia Medica also; the chief of which are, 1. Waters distilled. 2. Spirits. 3. Oyls distilled. 4. Balsams distilled. 5. Powers. 6. Elixers. 7. Tinctures. 8. Extracts. 9. Magisteries. 10. Salts. 11. Liquors. 12. Wines. 13. Vinegars. 14. Essences. 15. Flowers. 16. Glass. 17. Sulphurs. Of all which, both Galenick and Chymick, many Examples may be seen in our Pharmacopœia Londinensis, of late Years emitted into the World.

XVIII. The Rational Method, teaches how to prepare likewise, from the whole Materia Medica, these several Forms, 1. Waters, 2. Oyls. 3. Balsams. 4. Spirits. 5. Powers. 6. Elixers. 7. Tinctures,

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Tinctures. 8. Essences. 9. Species. 10. Empla-
sters, according to a natural and rational way,
wherein the Virtues, Powers, and Forces of Me-
dicines are intirely preserved, without Addition,
Diminution, or Alteration.

XIX. *The Pharmacologia, or Medical Store,*
(which the Prudence of Antiquity, and Wisdom of
all Ages, has ordered to be kept in the Apothecaries
and Chymists Shops, to answer the Exigency of all
Occasions) contains the Names, Number, Compositi-
ons, Preparations, Virtues, Uses, and various Doses,
of certain select, approved, and experienced Medi-
caments; together with an Estimate of the Powers
and Forces of those mostly in use, which the prudent
Physician is to draw forth, and use as the nature and
necessity of his occasion requires. The which we have
already done in Our Pharmacopœia Londinensis,
hitherto of the Physiologick Part of Physick; the
Pathologick follows.

XX. *Παθολογική, in rerum præter naturam con-*
sistit. Wherein is considered the General Method
of Indications of Diseases, Diagnostick, Ætiolo-
gick, and Prognostick.

XXI. *The Diagnosticks, shew (not so much sim-*
ply the Signs of Diseases, as) the Signs of the vari-
ous Causes, whereby the cause may be known and un-
derstood: for if the Disease be known by its Pa-
thognomick Signs, yet if the Cause be not under-
stood, the Cure will be very doubtfully attempted;
for the Medicaments for removing of the Di-
sease, must be contempered, according to the Na-
ture, Variety, and Mixture of Causes effecting.

XXII. *The Ætiologicks, shew the several and*
various

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various Causes of Diseases, according to their several Kinds or Differences: for as one Disease may have several Causes from which it may arise; so the several Kinds or Differences of it, will yet have different Causes from the first, either simple or mixed, according to the Symptoms and Complication of the Disease.

XXIII. *The Prognosticks, are deduced from the Symptomàtick Appearances of the Disease; whence, according to the Strength and Vigor of the Sick, the Vehemency or Remissness of the Symptoms, and their various alterations or changes, the Physician is made able to judge, whether the Disease may be curable or not, or probably may end in Life or Death. The Therapeuticks, now remain to be considered.*

XXIV. *Θεραπευτική, medendi rationem Dietâ, Chyrurgiâ, Pharmaciâque præscribit. Herein is considered the General Indications of Cure, Diætetic, Chyrurgick, and Pharmaick.*

XXV. *Hygieine, or the Diætetic Cure, is considered in a two-fold respect. 1. As it has relation to the preservation of Health, or prevention of Diseases, consisting in the true Knowledge and right Government of the Body in respect to the six Non-naturals. 2. As it has relation to the Government and Diet of the diseased.*

XXVI. *Chyrurgia, or Chyrurgery, teaches the Names, Numbers, Kinds, Parts affected, Signs, Causes, Judgments, and particular ways of Curing all external Diseases; As 1. Tumors. 2. Wounds. 3. Ulcers. 4. Fractures. 5. And Dislocations. Together with the Names, Numbers, Descriptions, and*

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and several Uses of all the Chyrurgick Instruments; and the Method of Pollicination or Embalming, whether Ancient, as the Egyptian and Jewish; or Modern, as the Greek, Roman, or English.

XXVII. *Pharmaica*, the *Pharmaicks* commonly and properly with us called *Physick*, is that which teaches us the Names, Kinds, Parts affected, Signs, Causes, Judgments, and various ways of Curing of all Internal Diseases, whether General or Particular, Acute or Chronick, happening to the Bodies of Men, Women, and Children.

XXVIII. Thus in short have we run through the whole Art of *Physick* in its principal Branches (to descend to particulars in this place we cannot) wherein you must note, that the NAMES. 1. Of the Principal Parts of Man's Body. 2. Of Diseases. 3. Of Herbs, Plants and Trees. 4. Of Minerals, as Metals, Semi-metals, Stones, and Earths. 5. Of Animals, as Birds, Beasts, Serpents, Fishes, and Insects, are to be known, learned, and understood in Greek, Latin, and English, that the Industrious Artist may be the more ready for the reading and understanding of Authors: And withal, that he be knowing and skilful, in all the Icons or Figures used in the Medical Learning, whether Anatomical, Chyrurgical, Phytological, Zoological, or Chymical, that he may not be imposed upon by any Medicaster pretending to our Art.

XXIX. In order therefore for the more Exquisite and Honourable Study and Practice of these Arts, the young Physician, ought First, to be thoroughly learned in all the preceding Branches of the same, and that he might be the more absolutely accomplished

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complished for it, he ought to revolve Antiquity ; to examine and scrutinize the various Judgments and Observations of the most Eminent Physicians , and daily read all the more approvable Authors extant.

XXX. Secondly, He ought to draw up the sum of his diffused Knowledge into a short and succinct Method, that he may not only know how to apply Precepts to his Practice ; but also be able to justify his Practice by the Precepts of the Art , and the Opinions of the Great Masters of the same ; not forgetting all this while , to make use of his own Judgment and Reason, in all his practical Conclusions.

XXXI. Thirdly , He ought to be knowing in all manner of Drugs , that he may not only tell what their Names are, but be judge of their Goodness, Virtues and Uses , and be able to make a choice of the best, if necessitated thereto.

XXXII. Fourthly, He ought also to spend some time, at least a year or two, with an Apothecary, that he may not only dispence the Composition of Medicines, but be versed in their Preparations and Mechanick mixtures, which though those things may at first seem below the Dignity of a Physician , yet this he is to understand, that he shall never be an able Artist without it.

XXXIII. Fifthly , He ought to live at least a year with some able Chymist, and go through an ample Course of Chymistry ; not that it is requisite for him to make and prepare every Medicine, which Chymists have taught in their Books ; but, that he ought actually to go through every kind of Process , and perform the operation with his own hand. And thus
by

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by knowing how to make one Medicine of that kind, he will know how to make an hundred of the same; whereby he will conceive the Mystery, Nature and Reason of the Art, and from thence, as out of a Store-house, fetch the Preparation of any Medicament whatsoever, at pleasure.

XXXIV. Sixthly, He ought not only to read Anatomy constantly, but also frequently to see Dissections; and thence, partly by his Reading, partly from his own Observations, to draw up a kind of Anatomical Scheme, that the complete Idea of the whole Humane Frame, being constantly in his Mind, he may be the more able to contemplate Diseases, search out their hidden Causes, and to prepare fit and proper Medicaments for the Cure.

XXXV. Seventhly, He ought constantly in the Summer time to Herbarize, that he may at sight know the Herb and its kind, from the presence of which, the Virtues, Natures, and Qualities thereof will present themselves to his Mind, whereby the Power and Energie of the Art will (as it were) by degrees be implanted in his Soul.

XXXVI. Eighthly, He ought to spend two years at least with a Practical Chyrurgion, that he may see, and withal help to perform all the Manual Operations of Chyrurgery; and that if possible in an Hospital, where he will constantly see great Variety. Without this Knowledge, let him pretend what he will, and use all the Industry he can, he will be but an imperfect Master of his Art.

XXXVII. Ninthly, These things being done, before ever he adventures to give or prescribe any Medicament of his own, he ought to live two or three

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three years with some eminent Physician, and a man of Practice, where he is to visit the Patient, observe the Disease, and its Symptoms, scrutinize into the Cause, take notice of his Master's Prescriptions, and make Observations of the Effects of every Dose, how it wrought, and the Operation upon that Constitution; all which things he ought constantly to commit to writing, that by revolving the same he may (when he comes to practise) be able to do the like. Hitherto of the Method of Studying, and coming to the knowledge of the Art of Physick: it now only remains to give Directions to a young Physician, how he should manage the Practice thereof.

XXXVIII. As to the Practice of Physick, this is to be understood, that the Learned Physician uses not so much Levity, as to try all sorts of Medicines which Physicians have in their Books prescribed, nor often to change their Medicaments; he that shall do so, shall never know the true worth of any one, but be always to seek. Whereas if he be a man of good Judgment, and able to make a Choice, he may by his Diligence in Reading be able to draw out a select number of the most approvable, which may answer all the Operations and Intentions of Physick, and absolve the whole Practice of the same.

XXXIX. With the constant use of these he will get Credit, and in a short time be able to know truly, whatever they will do; whereas otherwise, he would never be able to judge or know the true Worth of a Medicament.

XL. But whereas things are best taught by Example,

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ample, We will here exhibit a Catalogue of such as we constantly make use of in our Practice, and have tried their Effects for more than twenty years last past. And these we always keep ready prepared by us, being in a manner the very substance of what we practise withal, except some few Arcana, which we are not yet willing to discover to the World: Their Compositions, Preparations, Virtues, Uses, and Doses, you may find at large in the Fifth Edition of Our Polygraphice, lately emitted to the World.

XLI. These Medicines are wholly salubrious, and beneficial to the Body, of a small price, and admirable against the Diseases specified. They will be of excellent use for all Travellers, Soldiers, Sea-men, and such like, who cannot attend upon a Cure, but are forced to go about their Business.

XLII. These things may be taken to Sea with them, where they will stand them in great stead, in all Sea-sicknesses, sickly Seasons, Agues, Scurvies, Poxes, Gouts, Poysons, Fluxes, Feavers, Calentures, and other Diseases, commonly attending, Armies, Camps, and such as go to Sea: By the use of these things, especially in Scurvies, Dropsies, Gouts, Rheumatisms, Agues, Feavers, Calentures, Fluxes, Worms, Intollerable Pains, &c. almost incredible Cures have been done. The like to this may any Physician do for himself, if this pleases him not.

XLIII. Lastly, In the following Catalogue we have given you the Value of each Medicine by the Ounce; all which are firm and durable, so that neither the Sea, Season of the Year, nor Age will

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will spoyle them, if they be kept close; and they may be all had (excepting the two last) faithfully prepared by the Author, at his House in London. To the Giver of every good thing and Fountain of Mercy, be given all Praise, Honour, Glory, and Thanksgiving; and to him (Reader) thou art commended by

From my House at the Blew
Balcony, by the Ditch-
side, near Holborn-
Bridge. 10. January,
1681.

Thy faithful Friend
and Servant,

WILLIAM SALMON.

Catalogus

Catalogus Medicamentorum.

Price per Ounce.

1.	A qua Regulata	10: 1: 0
2.	Aqua Bezoartica	0: 0: 6
3.	Catharticum Argenteum	0: 5: 0
4.	Tinctura Corallorum	0: 2: 6
5.	Tinctura Stomachica	0: 1: 0
6.	Tinctura Bezoartica	0: 0: 6
7.	Tinctura Hysterica	0: 0: 8
8.	Tinctura Cathartica	0: 0: 6
9.	Tinctura Antimonii	0: 5: 0
10.	Guttæ Vitæ	0: 2: 6
11.	Tinctura Martis	0: 1: 6
12.	Spiritus Nitri Alcoholizatus	0: 2: 6
13.	Spiritus Anodynus	0: 1: 0
14.	Spiritus Aperiens	0: 1: 0
15.	Spiritus Antialthmaticus	0: 2: 0
16.	Spiritus Cosmeticus	0: 1: 0
17.	Potestates Cornu Cervi	0: 2: 6
18.	Potestates Baccarum Juniperi	0: 1: 0
19.	Potestates Carui	0: 1: 0
20.	Potestates Caryophyllorum	0: 2: 0
21.	Potestates Lavendulæ	0: 1: 0
22.	Potestates Limonium	0: 1: 0
23.	Potestates Mercurii	0: 5: 0
24.	Potestates Pulegii	0: 2: 0
25.	Potestates Rosmarini	0: 1: 6
26.	Potestates Succini	0: 1: 0

Catalogus Medicamentorum.

	Price per ounce	l. s. d.
27. Potestates Terebinthinæ		0:0:6
28. Elixir Proprietatis		0:2:6
29. Oleum Sulphuris		0:1:6
30. Oleum Salis Tartari		0:0:8
31. Syrupus Elaterii		0:0:6
32. Tabulæ Emeticæ		0:2:6
33. Sal Mirabile		0:6:0
34. Sal Vitriolatum		0:1:6
35. Aurum Vitæ		2:10:0
36. Calomelanos		0:2:0
37. Arcanum Corallinum		0:6:0
38. Pulvis Regalis		0:5:0
39. Pulvis Antifebriciticus		0:2:6
40. Pulvis Bezoarticus		0:10:0
41. Hercules noster		0:8:0
42. Antidotus nostra		0:1:0
43. Theriaca Londinensis nostra		0:4:0
44. Laudanum Volatile nostrum		0:16:0
45. Extractum Pectorale		0:0:6
46. Balsamum Sulphuris nostrum		0:2:6
47. Balsamum Amicum nostrum		0:1:0
48. Balsamum Arthriticum		0:1:0
49. Balsamum Ophthalmicum		0:2:0
50. Pilulæ Panchymagogæ		0:8:0
51. Pilulæ familias nostræ		0:5:0
52. Balsamum de Chili		0:1:0

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The Vertues and Uses of the Natural Balsamum de Chili.

1. **T**Here is lately brought from *Chili*, a Province in *America*, a most Excellent Natural Balsam, differing both from that of *Peru* and *Tolu*, but no ways inferiour in Virtues and Excellency, as the several Experiments lately made of it by several Learned Physicians, in the curing of Diseases, has given evident Demonstration.

2. It is a Remedy that no man under the Sun can compose, being a Natural Balsam, distilling from a small Tree in *Chili*, bearing a Leaf something differing from an *Olive-Leaf*. It is, without doubt, the most precious of all Natural Balsams, by reason of its great Virtues, and admirable Odour, excelling all others, even the most fragrant.

3. It eases all manner of pains in any Part of the Body, coming of Cold or Wind, chiefly pains of the Stomack, Indigestion, and want of Appetite, corroborating and strengthening of it, after a wonderful manner. It cures all Ulcers of the Breast,

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Breast and Lungs, Reins, Bladder, or Womb, Inward Bruises, Spitting of Blood, and such like. It helps shortness of Breath, Coughs, Consumptions, Wheelings, Hoarsness, Asthma's, and other Diseases of those Parts.

4. It is excellent against the Falling-sickness, Apoplexy, Convulsions, Palsey, Lethargy, Tremblings, old Head-achs, Megrims, Vertigo's, and other cold and moist Diseases of the Brain and Nerves, being inwardly taken, as shall be hereafter directed; and outwardly anointed upon the Part. It strengthens the Brain, comforts the Memory, and fortifies all the Senses both Internal and External, beyond any other Natural Balsam.

5. It kills Worms, whether in Old or Young, cures Ruptures, although of many Years standing, and dissolves the Stone and expels it, as also Sand, Gravel, or Slime, or any other thing which may obstruct the Urine, or stop up its Passages: So that it's believed there is scarcely a better Remedy for that purpose upon Earth, for it gives ease in the most vehement Pain, and being constantly taken for some time, perfects the Cure.

6. It eases also the Cholick Pains, Gripings, Wind in the Stomach or Bowels, and perfectly cures all Fluxes, Bloody-Fluxes, Excoriations, and such other like Distempers of the Guts. It cures Deafness, Pain and Noise in the Ears to a wonder, a drop or two being put into the Orifice of the Ears, and kept in with a little Cotton dipt in the same.

7. It

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7. It cures the Green-sickness in Virgins, and provokes the Terms in Women, being taken from Ten to Twenty, Thirty, or Forty Drops in a Glass of *White-wine* (as shall be anon directed) Morning and Night, for a Week together. It Cures also Barrenness, promotes Conception, and causes easie and speedy Delivery to Women in Travel; and in a great measure prevents or takes away those After-pains, being taken to the quantity afore-named in a Glass of *Juniper* or *Cinnamon-water*.

8. It heals all manner of Green Wounds, Rotten Ulcers, Fistula's, new or old running Sores in any Part of the Body; as also Punctures, or Hurts of the Nerves and Tendons, Aches, Pains, Lameness, Weakness of the Limbs or Joynts, being dropt into the Wound or Puncture, or otherwise applied thereupon, with a Tent, Lint, or Leather, &c. and so bound up, and not stirred in twenty four hours. It commonly cures at four or five times dressing, sometimes at two or three times, and sometimes at the first Dressing, though the Wound be very Deep, Contused, or Large.

9. It is an assured Remedy to cure the *Palsie*, (if not inveterate) Trembling, Gouts of all sorts, and any weakness of the Nerves and Joynts coming of a cold and moist cause, by anointing the afflicted Parts therewith; and taking of it inwardly, as shall be immediately directed: for it does Gently, and by degrees (as it were) carry off the Morbifick cause and matter almost to a Miracle.

10. This

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10. This Marvellous *Balsam* opens all Obstructions of the Liver and Spleen, being taken Morning and Evening for a Month together (as shall be directed, or in a little *Syrup*, or other convenient Vehicle:) It is held by the Natives for a great Treasure, and has many other singular Virtues, not here necessary to be named, lest we should prejudice its Worth and Excellency.

12. The way and manner of taking it Inwardly. In Diseases of the Head, Brain, and Nerves, give it in *Rosemary*, or *Cinamon-Water*, or in *Canary*: For the Stone, and other Diseases of the Reins and Bladder, you may give it in *Rhenish-Wine*: For the Cholick and Diseases of the Bowels, you may give it in *Juniper-Water*. For Palsies, Gouts, and Weaknesses of the Nerves and Joynts, you may give it in some *Antiparalytick-Wine*. If the Sick cannot take it in any proper Wine or Water, it may be given mixt with any proper Syrup: If it cannot be so taken, it may be made up into Pills with some fit Powder, as of *Zedoary*, *Nutmeg*, *Cinamon*, *Bayberies*, *Cubebs*, or what the Physician shall think more proper, and so gilded; for by this means it will be taken without nauseating. You may give it from half a Drachm to two, yea, three Drachms, according to Age and Strength; and it may be given Morning and Night for a Month, two or three together, without any prejudice.

11. And it is certain, that this *Balsam* is one of the greatest Specificks in the cure of the Palsie, Scurvy, and Gout that is, transcending all other Medicaments;

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Medicaments; but it ought to be constantly given, and in a due Dose, and with those advantages that it may not nauseate the Stomach: So taken, it performs more than any other Natural *Balsam*; it cleanses the whole Body of all Impurities, mundifies the whole Mass of Blood, heals all inward Bruises, Wounds, Ulcers, or Excoriations, whether in the Bowels, or Lungs; and otherwise restores decayed Nature to a Miracle, carrying off all its Fæculencies by Urine and Stool.

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WILLIAM SALMON.

A

A
COMPLETE SYSTEM
OF
PHYSICK
Theorical and Practical.

BOOK I.
Containing the Diseases and Distempers of the HEAD.

CHAP. I.

Of the Pains of the Head, or Head-Ach.

§. I.

MAN, the noblest of all Creatures, and most divinely made, is, not without Reason; and very elegantly called the *Epitome of the Whole World* and the *Microcosm*, or, the *Whole World in Little*: And as all other Things under the Sun; so particularly Diseases may be best

explained by contemplating Man, and the Curiousness and Nobleness of his Parts. And as those who take a View of a Country, first go to the *Metropolis*; and as Chap. 1. in the Title signifies no more than the *first Head*; so may this serve to intimate to us that we should begin our Discourse with the *Head*, which is the principal Part of the *Microcosm*, or the *Metropolis* of the *Little*

Little World. And as *Virgil* began with *Jove*; so we begin this Treatise of ours from the *Head*, which was anciently reckoned Sacred, and by which they used to Swear with the same veneration as by *Jove* himself. And besides this, if we consider the Violence and Extremity of the Disease we are now to treat of, and the frequent Visits it makes, we shall find Cause to begin with this cruel Monster first; For, as *Willis* says, there is no Part of the Body more obnoxious to Diseases and Pains than the *Head*; Insomuch that it passes for a common sign of the best Constitution in any, if it can be said of them, Their *Heads* never ake. Which Observation is back'd with this Reason; Because the *Head* is furnished with a great many nervous Parts, those Parts are more easily hurt. For the Nerves, the nervous Fibres, and Membranes; as, the two *Meninges* that environ the Brain, the Coats of the Nerves, the *Pericranium*, the *Periosteum*, the *Panniculus carnosus* of the Muscles, are all Parts of the greatest Sensation. Likewise in the Brain several Excrements are generated, which if they increase, and are not in due time discharged; it must needs follow, that those nervous Fibres must be irritated and vellicated by these disproportionate Particles of the Excrements, and so the *Head* be affected. Now as the *Head* has exterior and interior Parts; so in this Case we'll likewise follow the same Order of Nature, which is the best Teacher and Guide. For seeing this Pain in the *Head* is lodged in the *Meninges*, many excellent Authors, who are of the same Opinion, and follow the same Methods with us, usually treat of this Subject we are now upon, before any

other Distemper of the *Head*; under which they comprehend *Cephalalgia*, *Cephalaea*, and *Hemicrania*.

§. 2.

Definition and Division.

BUT because a Definition is the principal Business, we will begin with that first; It is a painful Sensation in the *Head*, caused by the Dissolution of Continuity. The Division follows: That Pain is not uniform, but sometimes external, sometimes internal. If it is external, (when the Distemper has got no further than betwixt the Skin and the Flesh) then the Hair falls off the *Head* as Leaves from the Tree in Autumn; and the Pain is not so violent; Which never happens if the Pain be inward, for then it is much greater, because the Membranes that compass the Brain are very sensible. If it be an old Ach, return often, continue long, and seize the whole *Head*, or the greater Part of it, then it is called *Cephalaea*; but if it is in one side only, then we call it an *Hemicrania*; If it come from some slight Occasion, as a Fever, or the Sun-Beams, or hard drinking, or some outward Cause, it is called a *Cephalalgia*, which amongst the Galenists is four fold, viz. *Pituitous*, *Bilious*, *Sanguineous*, and *Melancholic*; of which we shall speak hereafter.

§. 3. Part affected.

SOME take the Substance of the Brain for the Subject of this Disease, some the Ventricles, some the *Pericranium*, some few the *Periosteum*,

riosteum, others the Animal Spirits; and some, the Stomach; because when the *Meninges* of the Brain are out of Order, the Stomach also akes. But we reckon the *Subject* to be the nervous Parts of the Head; for they have the greatest Sensation; and hence it is, that Pains are felt by the Contraction and Twitching of those Fibres in which the Animal Spirits are lodged; for by how much the more acute those Particles are which lie in those Parts, by so much the more violent is the Pain; especially in the smallest Veins which consist of slender Filaments, and are therefore more easily puff'd up by the Spirits and kept stretched out, and are likewise apter to be moved and vellicated by the sharp Matter. We are induced to believe and declare with *Willis* and *Wedelius*, those two great Lights in Physick, that the Part affected is not the Substance of the Brain, because it has no sensitive Fibres; Which we know to be true by our own Experience; for we have seen an Instance of this in a Soldier, the Substance of whose Brain the Surgeon prob'd with his Instrument, and yet without the least pain to the Patient: When on the other Hand, if a Nerve or nervous Membrane be prick'd or wounded, great Pain or Spasmodic Motions arise. There is also this Reason, that purely by cutting a Nerve the Sense and Motion is taken away presently: Hence one may naturally conclude, that the Pain arises from these nervous Parts: when on the other Hand, there is less Pain in those Parts that are not nervous, tho they be full of Veins and Arteries, as one may see in the Lungs, Liver and Spleen, in

which there is but little Sense of Pain.

§. 4. Signs.

THE *Signs* are now to be considered. Some shew the Malady is just a coming, others that it is present. Much may be learnt by the Continuance or Intermision of the Disease, and the Hereditary Disposition of the Patient. It will also be of no small Moment to consider whether the Part be affected primarily, or secondarily, and by Communication. Now the proper Actions of the *Viscera* hurt, will shew what Communication there is between the Head and Part affected. Whichever *Crato* l. 4. alludes, (whom yet we do not altogether follow) Head-achs, says he, come through the Consent of the Stomach, and then usually the fore-Part of the Head akes; but when the Pain is from the Womb, then the hind-Part akes.

The Pain in the Head is sometimes pungent, tensive, stupifying, short and sometimes long, according as the Extrements of the Serum and Blood are sulphureous, saline, sharp, or acid, and as the Force of those Humors upon the Brain is stronger, or more violent. This Pain, as we said before, is sometimes tensive, sometimes fixt and piercing, by reason of some salt Particles lodg'd in the nervous Fibres; sometimes it is pulsative or thumping, through the too vigorous Fermentation of the Blood rushing violently into the Head through the *Carotides*; sometimes it is pungent or pricking, because of some sharp Particles sticking in the Membranes. If it comes from too much Blood, it will be indicated by the Constitution, Age, B 3 Climate,

Climate, Spring Season, Way and Manner of living, &c. with such other things as usually increase the Blood. Sometimes this Pain is *Periodical*, so that some have it every day, and continuing for some hours. Others are afflicted once or twice in a month, some only in three months, six months, a year; of which 'tis needless to give any Examples.

§. 5. Cause.

NOW that we have done with the *Signs* we proceed to the *Cause*; which according to the Ancients consists sometimes in a *cold pituitous Matter*, from which comes a dull heavy Pain. When the Pain is violent and makes sudden Invasions, with manifest Signs of Heat, that, they say proceeds from *Choler*. They also accuse the sanguineous adust Humors and Vapors rising up to the Head (believe them, who will for me) of causing this violent Pain.

§. 6.

THE *Paracelsus* sometimes reckon the Cause to be *some Accidental Digestion of the Blood*; sometimes the *Resolution of Tartar in the Stomach*, and sometimes *Obstruction*.

§. 7.

THE famous *Eschentius*, according to his own Principles, endeavors to explain the Causes of this Disease by the two Salts *Acids* and *Alkali's*, thinking that it happens either when too much *Alkali* is got into the Blood and makes it ferment; or too much *Acid* and thereby makes it coagulate.

§. 8.

HEMont with great Confidence imputes the Cause to the Stomach and Spleen; for it happens, says he, that something of the Nature of Spirit of Wine in the Artery of the Stomach, mixing it self with the *Spermatic Nourishment* of the Artery, does in process of time cause incurable *Vertigo's* and Head-achs.

§. 9.

BUT *Willis* is of another Opinion, thinking that the Pain of the Head does arise any where about the nervous Parts of the Head, and that the true Reason is, because the Animal Spirits being upon the least occasion separated and dispersed, they thereby make the containing Bodies to be corrugated and drawn together, and so cause a Pain. And adds further, that some disproportionate Particles rushing in amongst the Animal Spirits, or their Vessels thereby get into the Pores of the Fibres, and put the Animal Spirits into Confusion. And for this Reason he divides this Pain in the Head into *Accidental* or *Occasional*, and *Habitual*. The *Occasional* very easily arises from excessive drinking, going sun-basking, basking in the Sun, and too much Exercise.

And he says, this Head-ach usually happens in Fevers, because the Blood by too much fermenting, swells and dilates the Membranes which it passes through. Nor does he exclude the *Seruen* and Vapors, because they may get into the Membranes, and after that twitch and irritate the nervous Fibres.

But

But the *Habitual Pain* in the Head, which is continually troublesome, he calls a weak Constitution of the Part affected, whereupon the morbidick matter becomes more readily and easily accumulated. To this he refers an *Hereditary Head-Ach*, which is propagated from the Parents, and imputes it to the bad Conformation of the Integuments of the Head and Brain, which being thicker than they ought to be, and thereby unfit for the Humors and Vapors to pass through; those vicious Humors do either blow up or vellicate the *Meninges*, *Pericranium* and other sensible Parts, and so cause this great Pain. This worthy Author takes the *Morbific Matter* to be either the *Blood* or *Serum*, or the Nutritious or Nervous juice; that is, according as the Humors degenerating from their right *Cra-
sis*, become tainted with sulphureous, saline, sharp, acid, or bilious feculencies, they twitch the nervous Fibres, and so cause either a fixt, piercing, beating, pricking, heavy, short or longer Pain.

§. 10.

Spiritus who makes the Cause, as others do, the *Dissolution of Continuity*, says it comes from a sharp Humor or Vapor twitching the nervous Fibres, whether it be the *Pancreatick Juice*, or *Choler*, or Vapors compos'd of both these Humors; or it be *Serum* or *Blood*, all which are naturally apt to cause this Pain.

§. 11.

Let us now hear what *Cartes* says, who seeks for the Cause of this Malady after his usual man-

ner, in Particles of disproportionate Figures which deprave the *Cra-
sis* of the Blood, blaming the violent motion of the sharp Spirits and thin arterious Blood which is too bilious and viscous, or whilst these sharp Spirits are driven through the Arteries to the Head, they twitch, gnaw, rend and prick the Filaments and *C-
as*, or *Men-
inges* of the Brain, and so hurt the Pores which they would break through, that are not of the same Figure and Magnitude with them, and by making Breaches do at last dissolve the *Continuum*; from whence Head-Achs do necessarily come, all Pain according to the *Cartesians* arising from Obstruction. The Result of all which is this, That the Acrimony, Saltness and Sharpness of any Humor is able of it self to bring this Pain, always supposing a subtille Matter; that is, the pricking Pain arises from Salt, the cutting from an Acid, the dozing from an inspid Flegm, the distending from Vapors, the beating from pricking Particles that are extravasated upon the Artery.

§. 12.

But now to cast in my own Mite; I think with others that the immediate Cause of this sad Pain is the *Solution of Continuity*, and the mediate Cause I take to be some salt, sharp, austere, or sulphureous Particles in the mass of Blood and Animal Spirits, which carried, beyond their Sphere, to the nervous or membranous Parts, by their pinching and twitching cause this violent Pain. But it seems to me very immaterial by what Names you call this peccant Matter (for the Controversie lies more in them

than in the thing it self) viz. whether you call it the Recrements, or bilious Particles, or acute, or sulphureous, oily, tenacious, or very volatile, or saline, &c. For it is certain that the Animal Spirits being parted from one another by these, cause the contiguous Bodies to be constringed and pinched together, which occasions a certain unpleasant sensation. For these sharp, salt, sulphureous and acid Particles, from whence soever they come either corrode, or being lodg'd deeper and deeper in the Fibres rend them with their sharp Spikes and make a Division: As it sometimes happens in Fevers, that through the too quick Motion of Blood, however occasion'd, and running violently into the *Meninges* or Fibres, which know not how to give way, this dolorous Sensation presently arises. In like manner sometimes the Blood is a Hindrance to it self, when it is heaped together in a great quantity, and being driven on by other Blood that follows it, forces its Passage, through little holes and fissures (by Dividing, breaking, or opening the Mouths of the Vessels) into the neighbouring Parts; which is so ancient a Truth that *Hippocrates* takes notice of it, when he says that Bleeding at the Nose cures the most violent Pain in the Head. So that there are many Causes of this Distemper, according to that common Axiom in Logick, The same Effect may proceed from divers Causes. We read in our German *Ephemerides*, An. 1. Obs. 69. that there were found eight Ounces of yellow Serum in the fore-Ventricles of the Brain of one that was troubled with a heavy Pain in his Forehead. So the Excellent *de Graaf*

in the same *Ephemerides* says, he found a great Quantity of clear Water, under the *Pia Meninx*, and the *Carotides* grown hard, of one that died of such a Distemper. It is also plain from the same *Ephemer.* An. 10. Obs. 50. that Worms may cause this Pain. As to the *Hemacrania*, I am of Opinion, that the sharp and vitious Particles are carried with the Blood through the *Carotides* and jugular Arteries to the *Cerebellum*, by reason of a violent Turgescentcy preceeding. Now seeing those Arteries are divided into two Branches, and that there is sometimes an easier Passage through one than the other, wherever the Way is most open, thither the peccant Matter rushes with great Force. Nor do I at all doubt but that where the oily and sharp Particles predominate, whether they be lodged in the *Hypochondria*, or be there precipitated, or lie in any other *Viscera*, if too great a Fermentation or Defflagration arise, they are hurried to the Membranes of the Head, and if they find minute, strait, unproportionate Pores and Pipes which they cannot enter, they try to force a Passage and thereby cause a Pain. It is most usually about the back Part of the Head, because there are the most Arteries, and consequently the greatest Discharge of the peccant Humors. It usually reaches to the Neck, because the Matter extravasated in the hind-Part of the Head, falls down by its own Gravity to the Spinal Marrow through the fourth Ventricle of the Brain. And it is remitting, because all the Blood is not disposed alike, so that sometimes it comes sharp, anon it leaves off again. Thus much of the several Causes of the Head-Ach, any

of which whoever shall take upon him to dispute will find a difficult Task, as the famous *Willu* towards the Beginning of the first Chapter of his Book of the Head-Ach doth acknowledge; where he says, that the Causes of this Disease are so abstruse and intricate, that it is no easie Matter to attain to its true *Diagnosis* and Cure. No less Difficulty attends the *Prognosis* which we are now about to inspect.

§. 13. *Prognostick.*

AN old and inveterate Ach, that comes (as many think) from some cold Matter, is very hard to be cured, and especially in old Men. A constant excruciating Pain, and which takes away Rest is very dangerous and formidable. If it be without Intermission, and Periodical, and very violent, and is accompanied with a *Vertigo* and other Distempers; then it threatens with Deafness, Blindness, Phrensy, Epilepsy, Apoplexy, Palsy, Spasms, &c. If the Distension of the Nerves be a Concomitant of this Distemper, it is a Sign of very great Danger. In like manner, when it is accompanied with the Pox or Hypochondriacal Passion and often affects the Patient, it is very hard to be cured, if not altogether incurable. And there's but little Hope when the Pain comes from bilious Serum extravasated near the *Meninges*, or from an Irruption of Blood, which is commonly call'd an Apostem. Or, when it comes from a bony Hardness of the Carotid Arteries, as *Regnerus de Graaf* observed: as also that which is caused by Worms, which yet our German *Ephemerides* say has been cured by driving the Animal out through the Ear. And

that is incurable also which comes from little Stones that are bred in the Brain near the *Meninges*, as appears by the foresaid *Ephemerides* An. 8. Obs. 48. Whoever being well are suddainly seiz'd with Pain in the Head, and become forthwith dumb, and rattle, they die within seven Days except a Fever follow, as *Hippocrates* says l. 6. Aph. 51. When the Head is pain'd in some Part, or all about, and Pus, Water or Blood issues out at the Nostrils, mouth or Ears, it is a Sign the worst is over, as *Hippocrates* again witnesseth S. 6. Aph. 10. If the Summer be dry and have frequent North Winds, and the Autumn be rainy and have a South-Wind, then the Head-Ach afflicts in the Winter, as our foresaid experienc'd *Hippocrates* l. 3. Aph. 13. again tells us. When the Head-Ach does not begin the Disease, it is a certain Sign of a future *Crisis* by Vomit or Bleeding at the Nose, and that no Cure should be attempted, lest the Bleeding be hindred, which is a Benefit of Nature, and will either Cure, or at least (as Mariners to save the Ship throw the Goods overboard in a Storm) will give Ease to the Disease. That Head-Ach is easily cured which proceeds from Eating, Drinking, Lying in the Sun, immoderate Exercise, and that which is not too deep rooted and become habitual. If much warry Humor be extravasated into the Brain, and also become corrosive, it usually causes a Head-Ach which proves mortal.

The Pain in the Head, in an acute Fever, with thin white Urin, is dangerous; for it is an Argument (as is vulgarly held) of vitious Matter hurried up to those

sensible Parts, the *Meninges* of the Brain. When the Urin of those that are feverish is muddy, like that of Cattle, they either have the Head Ach, or it is nigh at hand, as *Hippocrates* says *l. 4. Aph 70.* If this Pain come from Choler or volatile Salt, the Patient is in Danger of a Phrensy; if from Melancholy, to run mad; if from a watry Humour or Blood, to fall into an Apoplexy.

§. 14. *Dietetic Cure.*

From what has been said of the *Causes*, it will be easie for any Man to know how the Body is to be order'd in Respect of the *Six Non-Naturals*; for that which increases the *Causes* is above all things to be avoided.

Therefore in the first place, Let the *Air* be temperate, thin and pure either by Art, or Change of Climate; but avoid a cold Air, for it hurts the Brain, neither must it be too hot; but always observe a *Medium*, for all suddain Changes are dangerous. It is very bad to lie down or walk bare-head in the Night-Time and moon-shine.

Let the *Meat* be of good Nourishment and of easie Concoction, as Wild-Fowl, Pullets, Capons, Veal, &c. Roast-meat is better for some Constitutions than boil'd; Poach'd Eggs, Water-Gruel, and Barley Broth are good. We advise the Patient by all means to forbear sharp, salt things, for they are naught for the Nerves; also Meats dryed in the S^o oak, and those that are windy; all Garden Fruit, as Pot-Herbs, Radishes, Smal-lage, Mustard, Garlick, and whatever else is commonly found to be

prejudicial to the Brain: Amongst which Milk-meats may be reckon'd, for *Hippocrates* long since forbad giving of Milk to those that were troubled with the Head-Ach.

Let the *Drink* be Small Wine, and that but little; however a Draught mixt with Cephalicks may sometimes be allowed. When it proceeds from a hot Cause, then Iron Waters, as of the *Spaw*, &c. are good, because they allay the Heat of the decolatory Instruments of the Blood, and wash off the Re-crements, and also do temper the rough excrementitious tartarconitro-sulphureous Salts, and expel 'em by Urin.

Woods of Sassafras and *Guaia-cum*, and Peony Roots do very well in Diet Drink. And caution must be us'd that no Darnel be boil'd in the Patients Beer.

Let the *Motion* and *Exercise* be moderate, for too great Exercise, through which the thin and hotter Particles of the Blood are drawn from the inward to the outward Parts, deprives the *Viscera* of their natural Ferment, and fills all the Parts of the Body with several Crudities; so that the Brain and *Genus Nervosum* are supplied with a vicious Juice, by which means those sensible Parts are easily vellicated.

Let the *Sleeping* and *Watching* be moderate, and let the Sick Person sleep with his Head high and cover'd; and not lie down under a Walnut-Tree, for that will cause a Head-Ach.

Lastly, the *Excreta* and *Retenta*, as Suppression of Critical Sweats, Sneezings stopt, immoderate Vener-y, the stoppage or too much flowing of the Terms, the *Lochia* or Purgation after Child-Birth, and the Hemorrhoids (which disturb the

the natural Heat and hinder Concoction, stock the mass of Blood with several unagreeable Particles, and are occasion of several Diseases and Symptoms) sometimes are the Cause of this Disease, and therefore are to be avoided.

Amongst the *Passions of the Mind* are reckon'd Anger, Fright, and the like; being such as enrage the Animal Spirits, and offend the Nerves, which easily cause a Head-Ach, and an irregular Heat in the Blood. And this is the Reason that in such Passions we may feel and see the Arteries of the Temples beat.

§. 15. *Pharmaceutic Cure.*

WE now proceed to the *Pharmaceutic Part*. The Ancients, and after them the Moderns, cure this Disease with the following Medicines, still observing this Distinction, that a cold Head-Ach comes from a cold Phlegm, a hot one from Choler, a sanguineous from the Blood, and a Melancholic one from an adust Humor; which Method we will describe though we do not approve of it, beginning first with *Preparers*, which they place in the first Rank, because they are of Opinion that the Morbifick Matter should be concocted several Days before it can be eradicated, which they do by these following Medicaments, viz. Syrup of Hyssop. of *Acorus* Roots, of Betony, of French Lavender; Oxy-mel of Squills, Betony, Marjoram, Sage; Decoction of *Guajacum*, with the other Cephalicks. If it come from a hotter Cause they make use of Syrup of Roses, of the two Roots, of the white water Lily, and of red Poppies. After these

they use Purgatives which they give the Patient two or three times, because, say they, the Humors being gradually concocted by Purging, may the better yield to Medicaments; for neither gross nor thin Humors are carried off so well by a quick Purge, and therefore they rather chuse Pills than Electuaries, judging them to be better for drawing the Humors from distant Parts. Their usual Pills are these, Pills of Agarick, *Alemburgina*, *Cochia*, *Arabica*, and *ferida*. Amongst the Electuaries, the *Indum*, *Diacatholicum*, *hieru*; Troches of Agarick, Turbith.

They mix *Purging Potions*, as Decoctions of Senna, with Roots of *Acorus*, Leaves of Betony, Rosemary, and other Cephalicks. To the same purpose they commend Clysters of a Decoction of Betony, Marjoram, Flowers of Melilot, adding Honey of Roses and Salt. If the Body be plethorick they allow Bleeding, else, in gross, slimy and very cold Humors they do, not without Cause, forbid it. If the Pain be in the hind-Part of the Head they bleed the fore-head Vein, if it be in other Parts they as ridiculously choose another Vein.

Now we come to their *Revulsives*, which are, Clysters, washing the Thighs and Feet with warm Water, Horse-Leeches applied to the most turgent Veins about the place aggrieved; also Blood-letting, strong Suppositories, Ligatures; as also hard Rubbings, Fomentations, Sneezers, Errhines, Apophlegmatists and Gargarisms, all which in their Opinion do revel. Afterwards they give such Medicaments as corroborate and amend the Intemperature that is left behind, which are to be given upon an empty

ty Stomach and Fasting, or else the Vapors, say they, will fly up from the lower Parts: And they are these, *Diacuminum*, Treacle, Michridate given in Betony water, *Diacorum*, *Aromaticum Rasatum*, *Diamuscum* sweet and bitter, Conserve of Marjoram, Rosemary Flowers, Betony, &c. A Decoction of *Gua-jacum*, with the Flowers of *Cardus Benedictus* they hold to be very available both in a *Cephalaa*, and *Hemicrania*. Cubebs, Musk, Amber and Cinnamon are only to be given to the Masculine Sex. They commend washing of the Head in Ley which has had Leaves of Betony and Marjoram, and Chamomil Flowers infused in it: And likewise Bathing the Head in a Decoction of Laurel Leaves, Betony and Marjoram Flowers, &c. They say it has been often found that hot Baths have wonderfully relieved the Head-Ach. Telling us also in their Writings that a Pomander made of Cinnamon, Cloves, *Stachos*, Leaves of Bay Tree, Marjoram has sometimes given ease. It is usual with them to apply a Cerecloth of *Euphorbium* in old Head-Achs; but it will take up too much Time to enumerate all the Medicaments they make use of in this Distemper. To be brief; They first of all give a Clyster, after which if the Matter be slimy and tough they use Incisers or Preparers. Afterward they carry off the Humors, and hinder their coming to the Head. If there be a *Plethora* they let Blood; after which they strengthen the Head, and purge away the Remainder of the Humour; nor do they neglect Topicks, because the stronger the Disease is, the stronger Remedies they apply. Amongst other things they fly to their Actual and Poten-

tial Cauteries, as their last but cruel Refuge. If the Pain comes by basking in the Sun, they make a Composition of Oil of Roses and Vinegar, and also Rosewater, in which they dip a linen Rag and apply it to the Head. And a thousand other Ointments, Oils, Emplaisters, Cataplasms, quilted Bags hath doing Antiquity long ago invented. In removing an inveterate *Cephalaa* they audaciously burn the Veins of the Temples, as *Mercurialis* l. 3. c. 10. doth testify.

§. 16.

THE Paracelsists have been something more successful in curing this Distemper: When it comes from too much Blood they cut a Vein, as *Paracelsus* their Master advises. Sometimes they open the fore-head Vein. He also says that the Head-Ach is cured by cold Things and Narcoticks, moist Things either external or internal, as Liquors of Coral, Roses, House-leek, Pearls, Darnel, &c. Giving this Reason; For that the volatile and raging Spirits exagitating the Blood, are quieted and as it were fettered by the strength of Narcoticks. He also commends Oil of Camphore to six Drops, with as many of Oil of Musk to be drunk in Ale, or any other convenient Liquor.

The Medicines of other *Reform'd Chymists* (as I may call them) are, Oil of Antimony with its Alkahest (or volatil Salt.) They reckon a great Vertue to be in Oil of *Gua-jacum* in strong and inveterate Head-Achs. Some Drops of the Oil of Amber taken inwardly every Day, and applied outwardly, especially

cially to the Crown of the Head, do wonderfully, according to them, strengthen the Brain, and dissipate the Pain. Oil of Rosemary Flowers, Fennel, Hyssop, Marjoram, especially when 'tis put into the Nostrils, has the same Effect. They have found that some Drops of the rectified Oil of *Olibanum*, taken in the Morning in a proper Vehicle, are very good. But to set down all the Medicaments us'd by Chymists in this Distemper would be too tedious.

§. 17.

Helmont, famous for the Cure of this Pain, says, that it is sometimes cured by Eating, fetching his Medicines not out of an Apothecarie's Shop, but out of a Pantry; but yet uses the same Method in its Cure, as he does in other Cephalic Distempers.

§. 18.

The excellent *Willis* aims principally at these two things in curing of this Distemper. 1. To take away the Matter of the Disease. 2. To root out and quite remove the Conjoint or Complicated Cause. He judges the Morbific Matter to consist in acid, salt, sulphureous and other Recrements, of the Blood, *Serum* and nervous Juice, which are carried to the Head, for the most Part, by the Blood. He ascribes the Causes to Vapors and *Effluvia's* getting out of the *Viscera* into the Blood. All which he thus rectifies: 1. That the Disorders of the Blood may be removed and prevented, he advises the Patient to bleed thrice, either in the Arm, or Jugular Vein;

as also to apply to the Head *Oxyrhodina's* and Epithems; and to take such Juleps, Emulsions or Decoctions as cool the Blood, and that the Body must be kept laxative. The better to fix and cool the Blood, he prescribes distilled Waters, Decoctions, Eleutherics, Powders, and especially makes use of Mineral Crystal. If this Pain proceed from a serous Matter, he endeavours by Clysters to stop the Fluxion of that vitious Humour; and afterwards to soak up that which is extravasated, he orders Blood-letting, especially in hotter Constitutions. But in cold Tempers he generally uses Vesicatories near the Ears, or applied to the Crown of the Head. And then, to free the Body from superfluous Serosities, gentle Catharticks, Diureticks and Diaphoreticks he reckons very proper, the Forms of all which are to be found in the Author. But the choicest, and which he generally prescribes are these: A Decoction of dry'd Leaves, sometimes of a Willow, sometimes of Betony, Vervain, Rosemary boiled in Spring-Water; and he mightily cries up the Vertue of the Liquor we call *Coffee*, to be drank twice a Day to the Quantity of six Ounces.

When it seems to proceed from the *Viscera*, he usually gives Medicaments appropriated to those Parts; as, if it comes from the Stomach, then he orders Stomachicks, as the *Elixir Proprietatis* of *Paracelsus* and of *Helmont*, Vitriol of *Mynsicht*, Stomach Powder of *Bulman*, &c. If it comes from the Spleen, he gives, with great Success, Chalybeats; if from the Womb Hystericks mixt with Cephalicks. When it remains after Meazles, Small Pox, Fevers

or

or Agues, and when the Blood grows rappid, and contracts a Scorbutick Dyscrasy; then he commends Antiscorbuticks and Chalybeats, first giving a gentle Purge.

In an universal Head-Ach, he says, all Cephalick Medicines which corroborate the Animal Spirits, and help all the sensitive and motive Organs in Man, are very good: as, the Tincture of Coral to twenty Drops, of Antimony, and of *Sal Armoniac*, impregnated with Amber and Coral, and Spirit of Harts-Horn with Amber to be drunk in a proper Vehicle. Nor is the use of *Millepedes* to be neglected, the expressed Juice, distilled Water and Powder of which are of singular Advantage. He usually also prescribes strengthening Plaisters; as also to apply Sinapisms and Vesicatoriis. He says, that Embrocation and Bathing the Head in cold Water often does Good, which the most Serene *Charles Lewis*, Elector Palatine, now dead, very successfully used. Our Author also prescribes a great deal to Salivation, Arteriotomy, and to other Things which it will not be to our Purpose more accurately to relate.

§. 19.

NOW will we see what *Sydenham* says, who to mitigate the sharp Humor and Vapor (as being the Cause of the Pain) makes use of Lenients, Demulcents and tempering Medicaments, especially the last, in Fevers, where the sharpness of the Choler abounds, adding also Anodynes and Narcotics. To take away the pain, and the beating and watchings, he orders the following Composition.

Take Water-Plantain, Lettuce, Sorrel, of each an Ounce, of Cinnamon-water half an Ounce, of the sweet Spirit of Salt half a Drachm, Syrup of *Diacodium* one Ounce. Mix them.

Amongst External Epithems or Liniments, he persuades to use the following. And first this Epithem.

Take of Water of Betony two Ounces, Rose-water one Ounce, vinegar of Marigolds two Drachms, Opium of *Thebes* half a Scruple. Mix them.

Then this Lensive Unguent,

Take of Ointment of Poplar Buds two Drachms, *Theban Opium* half a Scruple, Oil of boil'd Roses half a Drachm; Anoint the Temples therewith.

§. 20.

WE are now to see what *Carter* and his Followers say, who seem to be of our Opinion. Our Way of curing this Pain is thus. First, in a bilious Head-Ach, or when many sharp, oily Particles, rude Salts or Salino-sulphureous Recrements abound, as in Fevers, and other Distempers, which, no Doubt, are the occasion of the Solution of Unity, and of the sad Pain that follows; we order Blood-letting, and other Things which alter and correct the Intemperature of the Blood, and which disposseßes those Nitro-sulphureous Particles which are lodged in the sensible Membranes. All Purgatives do not answer the same Intent, but some are

are fittest to carry off these, some other Particles, which Diversity is not to be ascrib'd to an Occult Quality, but to the differing Constitution. So, if the Blood abound with Choler or Sulphureous Particles, they being very volatil, do easily yield to any Purgers. But pituitous, viscid and tough Humors, being not so easily moved, and (as I may say) having once taken up their Lodging in the Blood, require stronger Remedies. In a bilious Head-Ach this following Medicine is proper.

Take Water of Endive & Succory, as much of each as is sufficient, of yellow Rhubarb two Drachms, Salt of Tartar one Ounce. Mix them for a Purge.

This must be done first. In the second Place, the Heat and Sharpness of the Blood which is occasion'd by those sulphureous rude Particles is best tempered by watry Things; for the more Water there is, the lesser Acrimony is there found. To this End Acids are proper which correct this bilious Intemperature by precipitating the sharp Salts, for which the following Form may be prescribed.

Take of Water of Betony two Ounces, Water of Succory, Endive, and Wood-Sorrel of each three Ounces, Syrup of Rasp-Berries & Barberries of each an Ounce, Spirit of Vitriol as much as is sufficient to give it a grateful Acidity.

When Sleep is banished by these sharp, excrementitious Particles, which prick the Blood & Meninges of the Brain, it is best reduced by oily

Emulsions, which at the same time stop the too quick Motion of the Animal Spirits and of the Blood. E.g.

Take of the four greater cold Seeds husk'd of each half a Drachm, Seeds of White Poppy three Drachms, with Water of the Flowers of Betony, of the Lime Tree, and of Water Lilies as much of each as is sufficient, make an Emulsion and sweeten it with Sugar.

A Scorbutick and most stubborn Head-Ach is not removed but by Antiscorbuticks mixt with appropriate Medicines, because of its extraordinary saltness and sharpness. E. g.

Take Water of Vervain, Brooklime, Marsh Trefoil of each three Ounces, of the Phlegm of Vitriol two Ounces, Tincture of Roses two Drachms, Syrup of Pearls two Ounces. Mix them.

Thus much of the Bilious, now we come to speak of the Pituitous Head-Ach, which hath not such a sharp, virious Matter, but a thick gross and tough Blood, and therefore must needs occasion a heavy burthenfom Pain. This Grossness of the Blood must likewise cause a Stupidity of Mind, and produce not lucid, but thick and gross Animal Spirits, which will be fewer and feebler, and all the Motions will be slower. The Stomach too will be out of order, as I found by my Self when I had a Pain in my Head; which Consent between the Head and Stomach I observ'd in a Country-Fellow, who being hurt in his Brain complained more of his Stomach than his Head. And the Rea-

son is this; Because the Animal Spirits being put to Flight, and not flowing in due Quantity into the Stomach, its Tone must necessarily be vitiated. Besides, they that are Sick of this Distemper have a perpetual Inclination to Sleep; for the Pores of the Brain being fill'd with a pituitous and viscous Humor, the Animal Spirits are not able to keep them open. Therefore the obstructed Tubes of the Brain and *Meninges*, caused, no doubt, by that gross and pituitous Matter, must first be opened, and then the Humor is to be evacuated. In which Case you may with good Success use both Internal and External Medicines. But that they may come securely to the Place affected (*i. e.*) the Pores of the Brain, it is requisite they should have such stiff Parts as cannot by other Particles crossing them in their Way be easily biased or put out of their Road thither. Such as these common Woods, *Guajacum*, *Sassafras*, *China Root*, *Sarsaparilla*; Barks of *Tamarisk*, *Ash*, &c. which can, by their powerful Force and Stiffness, break through, cut, attenuate, and make flexible the rigid Particles; so that the rest of the Particles being subjugated, may run back again, and at last be quite cast out of the Body. For which Purpose we commend the Decoctions of the forementioned Woods in all the cold, tough and watry Distempers of this Nature. Here follow two Wines medicated with the Ingredients of these Decoctions.

Take of Betony, *Carduus benedictus*, Marjoram, Sage and Rosemary of each a Handful, Flowers of Rosemary and Lavender of each a Pugil, Woods of *Guajacum*, and

Sassafras of each an Ounce, Aniseeds two Drachms, Cream of Tartar half an Ounce. Mix them. Let them be put in a Bag, upon which pour a Quart of Rhenish Wine.

Very like to this, is this Excellent Receipt of the famous *Wedelius*.

Take of the Roots of Peony one Ounce, of Elecampane half an Ounce, Leaves of Betony, Bawm, Sage and Rosemary of each one handful, Flowers of Wall-Flower, Lily of the Valley and Rosemary of each two Pugils, Primrose Flowers one Pugil, of French Lavender two Drachms, Wood of Aloes or of Mistletoe of the Oak one Drachm, of Cinnamon a Drachm and a half. Sow 'em in a Bag, and boyl them in Wine.

The Enemy being thus disarm'd and fetter'd, may be quite destroy'd by the following Purge.

Take of *Extractum Phlegmagogum* half a Drachm, Resin of Jalap eight or ten Grains, Tartar vitriolated seven Grains, volatil Salt of Amber three Grains, Oil of Marjoram and Amber of each one Grain. Mix them, and make thirteen Pills. Or, Take Resin of Jalap and Scammony of each six Grains, of volatil Salt of Amber three Grains, Gums of *Gambanum* and Ammoniack of each half a Drachm, Oil of Myrrh three Grains. Mix them. Make Pills for one Dose.

The Cephalick Pills of *Crantzius* (which are the *Extractum Panchymagogum*) are in these Cases usual.

Infusions

Infusions of the Leaves of Senna with Agarick, and some resolving *Alkali* added, are not to be despised. After that altering volatil Salts and aromattick Cephalicks close up all. From whatever Cause the Disease arises, but especially if from the Obstruction of the Vessels and Pores of the Brain, all Aromatticks and such Things as consist of a Volatil Salt, as being Nervine, are very available; for by their sweet and gende Blandishments they cherish the sensible Parts, and thereby assuage the Pain. Such as are the Volatil Salt of Amber, and its Tincture, the Spirit of Harts-Horn with Amber, the Nervine Balsam of *Schefer*, our Volatil Cephalick Salt, our Tincture of Antimony (or, instead of these other Cephalick Salts, Tinctures, &c.) Cinnabarines are not to be forgot, nor the Infusion of *Chen*, which we approve of as very good. In a lasting, periodical Head-Ach the Medicines are often to be changed, which one must be careful in, for, the Causes are sometimes very obscure, which however by rightly weighing and considering of Circumstances may be pretty well guess'd at. When all is done, we must be very careful to prevent the begetting anew of those Sulphureous or viscid Recrements, or vitious Blood; for if they be regenerated, they prove more mischievous, and breed greater Confusion than at the first. Therefore we must be sure to stop all preternatural Fermentations in the Ventricle or Heart. In all Head-Achs, both simple and malign, the Juice of Crabs drawn together with the Juice of *Vervain* excels all others in Goodness.

There is likewise an excellent Remedy prepared of Hungarian Vi-

triol, which must first be dissolved in clear Water, then decanted and evaporated to half, and so put in a Cellar to Crystallize; which Crystals, being prepared of Vitriol, have something of the Nature of Salt, and therefore do cut. But because they have many Particles of Copper amongst them, they do gently bind, and so do, in some manner, shut up and straiten the Pores of the Arteries that are too open. Let half a Drachm of these Crystals be took Morning and Evening upon an empty Stomach. Camphore and its Oil are good in this Distemper.

In Venereal and Scorbutick Pains which are usually most violent in the Night-Time, besides the forementioned, the following Medicaments are proper.

Take Spirit of *Gnajaum* tartarizated, Sassafras of each one Drachm, Tincture of Antimony 1 Drachm, *Antimonium diaphoreticum* twenty Grains, Decoction of Sassafras two Ounces. Mix them, and give it at several Times.

To Women troubled with the same Distemper, and also subject to Hysterick Fits give this which follows.

Take of Elixir *Proprietatis* of *Paracelsus* two Drachms, Spirit of *Sal Armoniac*. with Amber, Scurvy-Grass of each one Drachm, Tincture of Castor, Amber of each one Drachm. Mix them. Let the Dose be from half a Drachm to a Drachm in a proper Vehicle.

If the Distemper comes from Weakness of Stomach, then Stomachicals,

chicals, as the Stomach Powder of *Berلمان*, Pepper Corns swallowed are convenient.

If it proceeds from Drunkenness, viz. from Wine, or that Volatil Acid become furious, Volatil Sales of Harts-Horn, &c. are very proper. Ivy-Leaves, Colewort and Rue applied to the Wrists, cure this Pain. If it comes from Extravasation of the Serum, commonly called Deluxions, *Crata's* Pills of Amber are very good.

So likewise the Cephalick Spirit of Vitriol, given in a Julep or Spring-Water to twenty Drops or more, does powerfully subdue this vitious Volatil. Emulsions also do the same, for all oily things do correct & amend this intoxicating Acid. Externally, Leaves of Vervain, Ivy, Cabbage and Rue, applied to the Wrist and Head are very good. But of all Remedies the most Sovereign in any sort of Head-Ach, are Mineral Waters, to which the affected fly as to their last Refuge. Many also, in the Spring, drink Juice of the Birch Tree with Success. Errhines, Masticatories and all anti-Epilepticks are here available.

§. 20.

THUS far of *Internal*, now we come to, *External* Medicaments, with which sometimes, especially in weak Constitutions, we ought to bridle the Fury of this Distemper. All Aromaticks also in this Case are proper, which may pass through the Pores of the Head, and so remove the Obstruction which is made in the Vessels of the Brain. Such as the Spirit of Harts-Horn. But for the sake of young Practitioners we will set down some Forms.

Take Water of Ectony and Marjoram of each three Ounces, Cephalick Spirit half an Ounce, Harts-Horn one Drachm and a half. Mix them. Let Linen Cloths dipt in this be laid to the Head.

In a hotter Case the following Medicines are proper.

Take Water of Vervain, Endive and Lettice of each two Ounces, Phlegm of Vitriol half an Ounce. Mix them. Or, Take Flowers of the Peach Tree, Elder, Vervain, Policy of the Mountain of each one Ounce, *Sal Prunella* one Drachm. Mix them. Or, Take Water of Dill, Roses and Penny-Royal of each one Ounce, Vinegar of Roses one Ounce, Opium dissolved in Vinegar half a Drachm, Camphore two Grains. Mix them, and make an Epithem.

This following Medicine though common and eate, yet is very efficacious.

Take of the Crum of white Bread, Juniper Berries pickled, of each alike what is sufficient. Or, a Bag may be made of Millet, Salt, Vervain and *Lignum Rhodium*.

But seeing we have found that these Epithems have often done Hurt, we must learn to be more cautious, for if the Pores be shut, the sharp Particles cannot have a Passage out; from whence one may conclude that those things are more Proper which are applied in a dry Form, such as are *Cucuphe*, or odoriferous Caps, or Vervain alone laid to the Head, to which Herb, well known

known to *Terence* and *Cicero*, *Forrestus* ascribes so great Efficacy, that it will cure the Head-Ach by being put under ones Bolster. Of this excellent Plant an admirable Plaster is also made. And likewise if kneaded with very sharp Leaven and Oil of Roses, and externally applied, it is very efficacious; for there is a certain Acidity in this Leaven by which the sharp Salts are precipitated. Distilled Oils of Amber, Lavender, Rosemary-Flowers, Marjoram, which can easily get into the Pores and there operate, outwardly applied are proper for some, but not for all. We may also make use of several Ointments and soporiferous Compositions, of which this following is much preferable to all others.

Take of *Unguentum Populneum* and *Alabastrinum* of each half an Ounce, *Requies Nicolai* one Ounce, Powder of the Seeds of Dill, white Poppys and Henbane of each two Scruples; Oil of Nymegs by Expression half a Drachm, Oriental Saffron half a Scruple, dissolved *Opium* two Scruples, Oil of the Seeds of Henbane and white Poppies by expression of each one Scruple. Mix them. Lay this to the Temples as a Plaster, but take heed it be not in time of a Crisis. Or, Take of Oil of Violets three Drachms, of Vinegar one Drachm, *Opium* and Saffron of each three Grains. With this anoint the Temples and Forehead.

If it be in the Summer, let the Juice of Crabs be mixed with the Juice of Vervain, which is also good in a malignant Pain. You may find Plasters enough here

and there amongst Authors, as of Berony, and Cephalick Plasters; but that we may not be tedious we will name one which excels all the rest, which is that of *Crato's*. We allow of Vescatories, Salivations, Leeches near the Ears, Venesection, Arteriotomy, Frictions, Cuppings, according as there is Occasion. In desperate Cases, and when the Patient had rather endure any thing than be so cruelly afflicted, a Cautery and Burning with *Moxa* may be used; some also have been cured by the Trepan, but this ought never to be done but in a desperate Head-Ach.

The *Cephalalgia*, *Cephalaa*, and *Hemicrania* proceeding from the same Causes, have altogether the same Cure. The Variety of the Causes is only to be respected.

Let the following Pulvis be laid to the Feet, especially in Malignant Fevers, and other Pains of the Head.

Take of the Leaves of Rue newly gathered two Handfuls, Roots of three Radishes, of the sharpest Leaven, Vinegar of Rue as much as is sufficient. Make a Pulvis.

Amulets of the Roots of Plantain and *Rhodium*, if they be gathered right, do sometimes avail. Also Lotions for the Feet do often help, the little nervous Fibres being by that means cherished and humoured.

Cumin bruised and laid to the Head is good. Let the Nostrils and Temples be anointed with Apoplectick Balsam, mixt with Oil of Amber and Cinnamon, also with Balsams of Sulphur and Amber.

ber. And some things of subtil parts must be holden to the Nose, and also stinking things, as Spirit of *Sul Armoniac*. Castor, &c. In a Pituitous Head-Ach Brown Paper dipp'd in distilled Oils, as of Amber, Lavender, Cloves, and laid pretty hot to the Head are very good. *Forestus* ties green or dried Vervain about the Neck, and, as he saith, with very good Success.

Amongst outward Things you may apply Vervain, the Root of

Zedoary and *Rhodium*, Seeds of Poppy, Kernels of Peach Stones and Flowers of the same, Seeds of Henbane, Flowers of Chamomil, &c. Or,

Take Oils of Poppies and Kernels of Peach Stones by Expression of each one Drachm, condens'd Juice of Vervain one Drachm and a half. With a sufficient quantity of Wax make a Liniment, with which anoint the top of the Head and Temples.

CHAP.

CHAP. II.

Of a Phrenzy and Delirium.

§. I.

IN the preceding Chapter we have treated of those Grievances of the Head which are commonly in and about the *Meninges, Pericranium, and nervous Membranes of the Brain*; we come now to speak of such Distempers as discharge their Fury upon the Seat of the *Fancy and Memory*, that is, within the globular Frame of the Brain, or rather in the Brain itself, the *Cerebellum and Nervous Stock*, amongst which this Distemper is Chief, by Us called *Phrenzy*; by *Celsus, Madness*; by *Avicenna Crisis*, or an *Apostem of the Brain*; by *Others Mentis latio*, or a *Distemper in the Mind*.

Definition.

It is wont to be defined, An Inflammation of the Brain or Membranes, causing an acute Fever, Dorage and Loss of ones Wits, proceeding, for the most Part, from the Accension of the Animal Spirits.

This sort of Madness is very dreadful and dangerous, because of the Part wherein it is commonly generated,

Division.

It is wont to be divided into *spurious and true*. The *spurious*, they say, is a loss of ones Wits witout an *Apostem of the Brain*, and that a *bilious Fever* commonly follows, which is accompanied with a mighty Thirst, even to that Degree, that the Patients Tongue is rough through extraordinary Dryness. The *true Phrenzy* has an *Apostem* with it. In the *spurious* the Ravings are not so violent nor frequent as they are in the *true*. We must observe that this milder sort of *Delirium* happens, especially in Fevers at the Time of the *Crisis*, and sometimes before it, and is more violent in the *Fir*, than in the Time of *Intermission*. Those that have the *true Phrenzy* never come to their Wits again, and so far lose their Memory as to forget, not only their daily Business, but the Commands of Nature. An Example of which in a miserable young Man *Forestus* has given us, *l. 10. Obs. 3.*

§. 2. Part affected.

WE now come to the *Part affected*, about which the Ancients are divided; and although they agree pretty well in other

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Particulars relating to the Disease, yet they mightily differ in this Point; some taking it to be the Substance, others the *Meninges*, others again the Ventracles of the Brain.

Helmont and his Followers being of a quite different Opinion from all the rest, fix the Seat of this *Madness* about the *Præcordia* or Midriff, and think that the carnosus Part of the *Diaphragma* is inflam'd, and therefore that the Animal Spirits are hurried violently thither, and thereby cause this *Delirium*.

Willis enters this Labyrinth by another Clew, and places it in the globous Part of the Brain, which as it is reckon'd the Seat of the Phantastic and Memory, so likewise will he have it to be the Part affected.

Sylvius is muchwath of the same Opinion with *Willis*, and therefore we need not repeat it.

Our own Conjecture is this; That those Commotions are rais'd not only in the Brain, but also in the *Cerebellum*, chiefly in the globous Part of the Brain, and wherever the Animal Spirits rove about.

§. 3. Signs.

WE now proceed to the Signs: It is accompanied with a continual dry Fever, by reason of the Animal Spirits being irritated by the Salino-Sulphureous Recrements which are precipitated into the Frame of the Brain, not without a preceding Turgescency. And hence come troublesome Watchings and Difficulty of Sleep. For the Animal Spirits being irritated by these heterogeneous Particles,

dispersed in the Brain, are, as it were, forced to be upon their Guard every Moment. Whence it happens that the Patient often jumps suddainly out of Bed, according as the raging Animal Spirits rush violently into this or that Part of Muscle. Respiration in this Disease is sometimes more slow, at other Times it is stronger and faster, according as the exasperated Spirits flow more mildly or impetuously into the *Diaphragma*. There is a Redness of the Eyes and Face, because of some over volatill Particles that fly upward, as Smoke in a Chimney. One of the Eyes also often waters, and the Veins and Arteries of the Eyes seem to swell through the great Quantity and Ebullition of the Blood. The Body is strangely dry, and looks as if it were Sun-burnt. The Eyes look big and stern, by Reason of a too great Afflux of Animal Spirits, and the puffing up of the Fibres and Contraction of the Muscles depending thereon. The Pulse is frequent, swift and large; there is a great Thirst, and the Tongue is rough.

The affected are delirious, and so much distracted that they can make no proper Answer, nor remember what they either say or do. All their Discourse is incoherent, without either Sense or Order. They imagin various Things, and contrary one to another; sometimes weeping, sometimes singing, sometimes shouting, according as the Animal Spirits light into the globous Frame of the Brain, and move into the several Pores and Passages of it, and by their irregular Motion form again, though incongruously, those Ideas and Impressions which were made before;

sure; for so the Mind perceives with a false Conception. They are furiously and audaciously bent upon the most desperate Attempts, and, as *Horace* speaks of Men drunk, they fall a fighting though very unfit for it. They childishly pick, and play with Feathers, Straws, &c. and their Hands tremble. The Urine in this Distemper is usually yellow and thin; and also often white, not by Reason of the Cholera being hurried to the Brain, as the Ancients erroneously did suppose, but because the Sulphureous Re-crements being not well assimilated or incorporated into the Serum, remain in the Blood, and together with it are carried to the Brain; So that the Urine must needs be white when it wants that which should give it its Tincture: Which, according to *Helmont*, is a very bad Symptom, who says, *When the Urine is clear and not tinged, it is a Sign of a subsequent Delirium*. So that a Fever with a continual Delirium is a true Diagnostick Sign of a Phrenzy, provided that the Delirium continue after it. For we call that a simple Delirium which appears in the Fever, and goes off when the Fever is over. But if it exceeds its Bounds, and continues longer, and is more intense, then one may infallibly conclude a Phrenzy is at Hand. Which still is more certain, when the Patient greedily devours his Medicines and ordinary Drink; and also cannot make Water, his Animal Spirits being so disordered that they are not able to do their excretory Office,

§. 4. Cause.

WE now proceed to the Cause, the principal Matter in

this Disease, on the Knowledge of which the Cure certainly does depend.

The *Succents* (to whom for Antiquities Sake we ought to give Precedence) sometimes derive the Cause from superfluous Blood violently carried into the Brain, sometimes from Cholera enraged and causing a great Inflammation in the Brain or its *Meninges*; sometimes from adust Cholera got into the Brain or *Diaphragma*. If it proceeds from the Blood extravasated, then they observe that the Patient has a foolish Laughter, does not dote so much, nor is so severe. If it comes from adust Cholera, that then he is raving mad and fit to be bound.

Those, say they, that have their whole Brain inflamed by any Humor, quite lose their Reason, and when the fore-Part of it is only inflamed, that the Imagination is more disturbed than the Reason, but when the back-Part of it is only affected, that they lose their Memory in a great Measure. And as the Ancients ascribe a great Deal to Vapors in other Matters; so in this Case they lay the Fault on dry Vapors, that are got up into the Brain and disturb the Animal Spirits.

§. 5.

LET us now come to *Paracelsus*, who makes the immediate Cause to be dry Mercury, sublimated by a three old Heat; which Mercury, according to him, is elevated by the Heat, 1. Of a digestive Virtue, 2. Of Exercise, 3. Of the Stars: For as by the Heat of the Sun several Things may be set on Fire, so the Spirit of

Mercury is easily kindled, either by Sulphur or alone, as Wine taken in a great Quantity doth sublimate Mercury like Fire. So that a Phrenzy, according to him, is a Mercurial Disease, that has its Being in the Humors, and a Sublimation which proceeds from internal and external Heat. He also says in another Place, This Disease and other Species of it, do proceed from the heaping up of the Spirit of Life, which is obstructed in the Brain, and causes Putrefaction and Exulceration there. Again he says, That Tartar is bred without the Brain in the Region of the Ventricle, from which arise Phrenzy and Madness. So he elsewhere tells us of a Worm that having pierced the *pia* and *dura Mater* caused a Phrenzy.

§. 6.

Helmont says, that a certain kind of Recrement is carried to the Veins about the Midriff, and that a *Delirium* is caused thereby; and violently drags *Hippocrates* to speak for him in these Words, *He that has a strong beating of a Pulse in the Hypochondria, presently turns frantick.* And for this Reason (continues *Helmont*) in the Schools this Passion is called *hypochondriacal*; adding that there are various sorts of apish and fierce *Delirium's* which vary according to the Quality of that Poison.

§. 7.

Willis argues, that this Distemper is caused by the Animal Spirits being too much irritated or disordered, and confusedly hurried up and down the

globose Frame of the Brain; where he reckons the Seat of the Fancy and Memory to be, and that from thence various Phantasms and confused Notions have their Original, and being thus enraged and maddened they raise many and divers Thoughts. Whence it follows, that whilst they are sometimes in one Organ, and sometimes in another, they must necessarily cause absurd Speech and disorderly Gestures. He says, that this Madness sometimes has its Original in the Blood, sometimes even in the Animal Spirits residing in the nervous Kind. That it comes from the Blood, he proves by burning Fevers, when the Blood boils too much, in which preternatural Effervescency, the heterogeneous, wild Particles, by means of a spumous Rarefaction of the Blood, get into the Pores of the Brain, and exagitate the Spirits and put them into Confusion. He proves it likewise by Drunkenness, when those intoxicating and untamed Particles are carried into the Brain and cause this sad Effect. Nor does he exclude malignant, contagious Particles (as we see in the Small-Pox, Meazels, malignant Fevers, Plague) which being got to the Pores of the Brain, disorder the Spirits and cause a Phrenzy. He proves by the same Reason, that Night-shade, Mandrake, and other venomous Plants and Poisons may easily cause this Disease. And as he has thus far shown that the Cause may proceed from the Impetuous Violence of the Animal Spirits; so does he likewise on the contrary assert, that it comes sometimes from a Penury and Scarcity of them, which he proves by those that are agonizing or at the last Gasps, as also such as

are

are macerated with Hunger, Watchings and Hemorrhages. He says further, that sometimes the Blood is not at all in the fault, and that is, when the Animal Spirits that stand Sentry are only disordered amongst themselves by some external Cause, which he proves by Hysterical and other convulsive Distempers and Motions.

§. 8.

Now we come to *Sylvius*, who makes this Disease to arise from a very sharp and volatile Choler, or such like Humor, consisting of sharp volatile Salt, and associating it self with the Spiritous Part, and disturbing the Animal Spirits; by which Means, he says, sometimes the Imagination, sometimes the Memory, and sometimes the Phancy is hurt, and that from hence a *Delirium* proceeds.

§. 9.

Cirtes and his Followers make this *Delirium* to be a short Fury, which while it continues Men think, speak and act many ridiculous Things. Sometimes they judge it to arise from the Heat of the Blood, when it is stuff'd with sharp and other ill Particles, which run into the little Pores of the Brain, and its Membranes, and sometimes sets them on Fire, and from thence they derive an Inflammation, which they say is, when triangular Bodies light into round Pores, and thereby leave three little Spaces on each side of them according to their three *Superficies*; to the filling of which there flows in a certain sort of subtile Matter,

by the Influx whereof, the Parts and Humors are disturb'd and mov'd, from whence they argue this Inflammation arises. Nor do they doubt that the Animal Spirits may be in Fault through their Mixture and Motion, especially if they be more subtile and more agitated than they ought to be; for then, say they, they form other Ideas; and the *Glandula Pinealis* cannot discharge its duty, because the Animal Spirits do not obey it, but being unruly and disobedient to its Command, run hither and thither and fly away again. Now the Soul judging according to the Motions that are brought to it, in this Perturbation of the Animal Spirits the Motions are irregular and uncertain, and therefore there can be no regular compos'd Thoughts. They prove that that subtile Matter does contribute much to the Distemper, from this; That Men as well as Dogs are most obnoxious to this Disease in the Summer-Time, and particularly in the Dog-Days, when this subtile Matter flows in, in greater Quantity, and the Blood and Animal Spirits, like so much combustible Matter, are sooner kindled, so that their Motions must needs be biassed.

§. 10.

Having given the Opinion of others, now we may be allowed to put in our Own. Which is thus; That the Animal Spirits being kindled are confusedly driven this Way and that Way, in which furious Dispersion sometimes they open these, sometimes other Pores of the Brain, and violently croud thorow wherever they find a Passage.

Now that which causes this Disturbance and Confusion, is the Blood over heated, and full of Sulphureous Recrements, carried to the globous Part of the Brain, as we see every Day in Fevers, in which there are also sharp and eager Spirits. For as long as these Spirits consist of oily Parts, and some few sharp and watry ones conspiring together; so long they are quiet and all is well. But whenever sharp Particles do preternaturally abound and bear Sway in the Spirits, presently there arise Com-motions and Disorders in the globous Part of the Brain where this Mischief happens. Which is manifest enough by two frantick Persons which we opened, in whose Brains we could not find the least Extravasation either of Blood or any other cholerick Humor, or Inflammation of the *Meninges*, or any *Apostem*: And again we have seen others who had ill favoured Wounds in their Brain, and yet died without raving. So that we do not doubt that some sulphureous, sharp, salt, pungent Recrements, that have their Birth from Intermittent, Continued or Malignant Fevers; or from drinking too much Wine, and the unseasonable Use of other hot Cordials which are carried into the Blood and Spirits, or from some Poisons, do irritate the Animal Spirits, so as to break the Enclosures of the Brain, and creep here and there into the Pores thereof, according as they can get Entrance. It is plain by many Examples, that poisonous Herbs may bring this Disease: For I my self in a Village call'd *Lindheim* near *Limbourg* in *Germany*, saw the Master of the House with his Son and two Daugh-

ters, run so mad by eating of Hemlock which they had mistook for Chervil, that they could speak nothing but Nonsense, dancing and running up and down the House and playing strange apish Tricks, which was occasion'd, no doubt, by the Animal Spirits turn'd raging mad by the poisonous Particles of the Chervil.

The Reason why this Distemper seizes those that are at their last Gasp, and other weak and old Men, is, That the Animal Spirits being almost quite spent, and forsaking in a great Measure the extreme Parts, do retire to the Brain, where they make their last Effort, in which Extremity and Danger they in great Confusion and Distraction open unusual Pores, and cause a *Delirium*. Which we may observe in an outward Part that gangrenes; for the Animal Spirits being in Danger to be destroyed, make hast to be gone, and therefore shelter themselves in the Brain, where, by their Disorder, they occasion a *Delirium*. Not much unlike to Garrison-Soldiers, who being beat by the Enemy from their Out-Works, retire into the Fort, and in their Hast beat down or break thorow whatever stands in their Way. Here we are to observe, that as a Fever brings a *Delirium*, so likewise does a *Delirium* bring a Fever.

The Judgment in this Distemper does not suffer, altho the Soul produce nothing but absurd and ridiculous Effects; for when the frantick Person chides and is angry, such Idea's are really represented to the Soul, so that it must needs think of chiding; but its Error lies in thinking that those Idea's are presented to it by some outward

outward and present Cause, not in the Judgment.

The Eyes often, when the Disease is not violent, shed Tears, because through the extraordinary Motion of the Blood and Serum, there is more Serum carried to the *Glandulae Lacrymales* than can be conveniently discharged by the Lympheducts, so that it must needs be forc'd out by way of Tears; but Weeping is only accidental in this Distemper.

There is often a Trembling also, because through the violent Motion of the Blood and Spirits, the Valves are forced and in a Manner moved, and so the Spirits run violently out of one Muscle into another.

The Dryness of the Mouth in this Distemper proceeds from two Causes. Either when the Serum and all the watry Parts of the Blood are in great Quantity driven through the Habit of the Body or other Passages, so that none flowing to the Mouth or Throat to moisten them, a Dryness and Thirst arise, which may be quenched by drinking. Or, from some Obstruction in the *Glandulae Salivales*, so that little or no Saliva can come to the Mouth. In this Case Thirst is not abated but increased by drinking, because it makes the Obstruction greater, which ought to be opened.

§. II. Prognostick.

AS to the Prognostick, It is an acute and very dangerous Disease, and kills in seven Days if there be not speedy Help. And that Phrenzy is most dangerous in which the Urin is white and clear, as *Hippocrates* says, l. 4. Aph. 72.

Constant Watching and a lasting Madness are often mortal Symptoms. If Sleep allay it, there will be no Danger. A bilious, virulent and black Vomiting, is an ill Sign, and a dismal Messenger of Death, and as *Hippocrates* witnesses, Death is even at the Door. Those mad Freaks which are accompanied with Laughter, are not so dangerous as bold and premeditated ones are. That Phrenzy which is attended with a hectic or a dry hot Body, is seldom cured, because the Animal Spirits in this Case are very sharp. There is also more or less Danger according to the strength of the Patient. If it remits often, and has many Intervals, it is much better than when 'tis continued. Also young Men are sooner cured of this Disease than old Men as they are oftener troubled with it than old Men are; for young Men have hotter and more vigorous Blood, and so their Animal Spirits are more furious and the sooner irritated. But old Men have their Spirits more sedate and quiet, and not so easily angered.

If the Excrements be white, it is an ill Sign, because the *Ductus Choleochus* is obstructed, so that the Choler is not carried to the Intestins to tincture the Excrements, but to the Brain. When the Stools are red it is an ill Sign, because it shows either that the Heat is immoderate, and that all is in a Manner burnt up, or that Blood is mixt with them. To pick Straws and Feathers is often a Sign of ensuing Foolishness.

When the Urin is pale and clear, it is a bad Symptom, not because the Choler is carried to the Head, as is vulgarly thought, but because the Pores of the Reins are obstructed,

feed, so that the tincturing Humor cannot pass through them.

Shaking and Shivering are bad Signs, because they denote Defect of Spirits, and Obstruction of the Nerves. Hither also belong the Aphorisms of *Hippocrates*, *S. 6. Aph. 11.* The Hemorrhoids do good because they evacuate, for Evacuation is profitable. Also *S. 3. Aph. 30.* Likewise *S. 7. Aph. 12.* because a great Disease comes upon the Back of another. If the Mischief arise from drinking Wine, and taking other hotter Cordials, and if the *Crisis* be rightly made in a Fever by Urin and Sweat, it is not so dangerous, but may be easily cured. But if the Animal Spirits (tho they be not so hot) contract an ill Habit, and by that Means the Passages and Pores of the Brain be spoiled and perverted, a lasting *Delirium* often follows, as the famous *Willis* also has observed as well as we.

S. 12. Dietetic Cure.

NOW we come to the *Dietetic* Cure, which as in all other Diseases, so likewise in this is principally to be observed.

The *Air* must be temperate and pure, inclining to cold; on the contrary, that which is hotter and dryer must be avoided; for the subtil Matter, according to *Cartes*, may irritate the Animal Spirits of those that are inclinable to this Distemper; and it is observable that Phrenzies are commonly bred under the Dog Star, it being then a hot Season.

The *Meat* must be moistning and cooling, such as Peisan, Barley husked and boiled, Lettuce, Endive, Spinach, and the like, which may

be boiled in Broth and given to the Patient. Moderate Eating must also be observed; for as to eat too much heightens the Disease; so likewise too much Abstinence decays the Strength, and dissipates the Animal Spirits. In the Declension of the Disease you may give Fish that d. light in a stony bottom, as Trouts, &c. And by all Means have a Care of sharp, hot aromattick Things, which fire the Blood and Animal Spirits.

Let the *Drink* be Barley Water sharpened with Spirit of Vitriol. Several Sorts of Juleps also are good, made of distilled Waters and acid Syrups; as likewise Decoctions of Tamarinds, or Nitrous Mineral Water. All spirituous Things and hot, whether rich Wine, or Spirit of Wine, or other hot Cordial Waters, are industriously to be avoided. For it cannot easily be imagined how much by the Use of these the Spirits are irritated.

Exercise must be gentle and moderate, nay *Rest* is rather to be enjoined than that which is too great and inordinate. Frictions of the lower Parts, whereby the Animal Spirits may be composed, especially when the Symptoms are most favourable, are to be advised.

Sleep must by all Means be procured. For hereby the Animal Spirits become more sedate and governable. But if the Patient cannot sleep, he must be brought to it by Narcoticks taken inwardly, and applied outwardly, viz. by the Use of anodyne Topicks. Whence it follows, that Watching is to be avoided as an Enrager of the Spirits.

The *Excretions* by Stool and Urin ought to be agreeable to Nature, or else they must be often procured by

by Art. The affected are frequently to be put in Mind of making Water, and the Chamber-Pot is to be offered to provoke them to it. For the Animal Spirits do not flow in a sufficient Quantity to contract the Muscles of the Bladder.

Passions of the Mind must be agreeable, and those that are good humored, and such as the distemper'd Person takes most Delight in, are to be desired to keep him Company. All great Perturbations of Mind, as Anger, &c. are to be avoided as cautiously as a Mariner does a Rock; and the Passion of Love, is dangerous above all the Rest. I knew two young Men, who being ardently in Love with their Mistresses, when they despair'd of Success in their Amours, fell into a *Phrenitis Aphrodisia*, as they call it, or became mad through Love, and the poor Wretches, fancied themselves Kings. Of such also you may read in the German *Ephem. An. 6. & 7. Obs. 34.*

§. 13. *Pharmaceutic Cure.*

NOW we proceed, as our Method requires, to the Cure by Pharmacy, and first we bring in the Ancients, who, for Fear of an Inflammation, and after that, an Apostem, presently advise Bleeding. Then they keep the Body loose with Clysters, and at the same Time, to prevent the coming of the Humors and Blood to the Head, use *Repellents*, such as an *Oxyrrhodinum* of Rose-Water, Vinegar and Oil of Roses; this, and other cold Things of the same Nature soaked in a Cloth they apply cold to the Neck, fore-Part of the Head, or the whole Head, and often repeat them.

For the same End they prescribe Embrocations of a Decoction of white Poppy, Henbane, Flowers of Water-Lily, Violets, Roses, and of the Juice of Plantain, Lettuce, *Sempervivum*, &c. They also steep pieces of woollen Rags in these and other Liquors, and lay them to the fore-Part of the Head, believing that they drive away, thicken and cool Vapors and hot Humors. They advise the applying of *Unguentum Alabastrinum* and *Populneum* to the Temples. Also that the Force and Violence of the Humor may be stopt, they command the Application of Cupping-Glasses with Scarification to Parts near the Head, if Venesection was upon any Account omitted: Afterward that the Heat of the Blood may be somewhat allayed, they give a convenient Syrup, which also may cause Sleep. After the Humors are some Way or other pretty well compos'd, they next contrive to discharge by Catharticks the sharp Reliques which are left behind. When the Cause proceeds from Choler or Blood they purge with Electuary of Juice of Roses, *Diaprunum solutivum*, Syrup of Roses, *Pilula aures*, Troches of Rhubarb, *Cassia* newly drawn, *Manna*, Rhubarb infus'd in Water of Endive. When it comes from Melancholy, or, when black Choler, as they call it, does abound, they use stronger Purgers, as Extract of Hellebore, Leaves of *Senna*, &c.

After that they try to keep the Humors from the Head by binding and rubbing the outward Parts and by Lotions. Their Revellers are Blood-Letting, Clysters, Leeches applied to the Forehead and Temples. They also prescribe washing the Feet and Hands in a Decoction of Lettuce, Violets, Plantain, &c.

Then

Then they strengthen the Brain with their Corroboratives, as *Diamargariton frigidum*, Syrup of Pomgranates, Conserve of Violets, Flowers of Water-Lily, Bugloss, &c. Nor do they neglect Baths of fresh Water, and Irrigations of the Head with Violets, Lettuce, Flowers of Water Lily. They shave the Head and lay thereto a Ram's Lungs or Liver, a Whelp, Capon, Hen or other Creatures gutted, cut in two and reeking hot. The Thirst which is usually very troublesome in this Distemper, they assuage with Juice of Currans given in a convenient Decoction to the Quantity of one Ounce or more. They cause Rest with Anodynes and Opiats, but dissuade the too frequent Use of them, lest the Distemper turn into a Lethargy. And if the Urin be stop'd they provoke it by Diureticks and proper Bags applied above the *Pubes*, taking their Measures according to the Patients Strength.

§. 14.

NOW we come to Paracelsus's Way of Cure, which consists commonly in these three Things. 1. In taking away the Sublimation of Mercury. 2. In removing Obstructions. And 3. In restoring and strengthening the Animal Spirits when they are weakened. The Business of the first is done not only by Coolers, but by Anodynes too, which by their stupefactive Quality do assuage and coagulate the raging Spirits: For which he mightily commends *Laudanum*, his own Invention, taken from three to five Grains; by which he tells us, a German Prince afflicted with this Disease, was made perfectly well both in Body and Mind.

Yet some of his Sect prefer Mineral or Metalline *Laudanum*, others *Laudanum* without *Opium* of the Sulphur of Vitriol. For the second, *i. e.* to remove Obstructions, he says the Spirit of Vitriol, especially that which is call'd the Philosophical Spirit, *Arcanum Vitrioli*, Extract of Hellebore, Salt of Urin, Spirit of Salt, Spirit of Nitre, the Antimonial Elixir of *Paracelsus*, &c. For the third Indication, *i. e.* to comfort the Brain, he commends the Water, or green Liqueur, or Sky-coloured Tincture of Silver, or Tincture of the Moon, Essence of Topaz, Sapphir, Emerald, Oil of Amber, &c. The chief Remedies of other Chymists in this Distemper are, the true Tincture of Gold prepar'd with the corrosive *Menstrua's*, given every Day from three to six Drops, Tincture of Coral, Oil and Salt of Pearls, as also Spirit of Camphore given in Rose-Water, and Magistery of Tartar given in Water of Swallows with Castor.

§. 15.

HELMONT thinks the Remedies should not be applied to the Head, because he supposes the Cause of Madness and Phrenzy to lye in the *Præcordia*. But that is to take Notice only of the Effect, and not the Cause; like silly Currs that bite the Stone thrown at them without regarding the Hand that threw it. And therefore it is that he advises the Immersion of the Patient in cold Water; and, which is safer, as he exceedingly extols the soporiferous, Narcotick Philosophical Sulphur of Vitriol in all Alienations of Mind, so particularly in this Phrenzy.

§. 16.

§. 16.

Willis teaches that two Things especially are to be regarded in curing this Distemper, The Fever and the Turgesſency. Therefore the Heat or the boiling of the Blood, from whatever Cause it proceed, is to be preſently allayed and ſtopt, and the enflamed Animal Spirits, muſt be gently compoſed and extinguished. For which Reason he is of Opinion that the Patient muſt immediately be blooded, and that it ſhould be often repeated if his Strength will bear it (for Nothing more quickens the enkindled Blood than Veniſection) which, he ſays, muſt be done by opening a Vein either in the Arm, or Hand, or Forehead, or Foot: Nor does he reject Arteriotomy, Bleeding with Leeches, Cupping-Glaſſes: and, above all Things, he commends Clyſters for preventing the Feveriſh Matter from flying from the *Viſcera* up to the Head. Amongſt Purgers, he allows of Looſners, and ſuch as purge gently; as for Vomits and ſtrong Catharticks, being Things that very much weaken, he quite excludes them. He cries up a Cataplaſm of Rue, Vervain, Briary-Root, Flowers of wild Poppy with Soap applied to the Feet. Nor does he aſcribe leſs to Juleps and cooling Decoctions, in allaying the Heat of the Blood. But if all theſe foreſaid Medicines prove ineffectual, he has Recourſe to a moderate Uſe of Hypnoticks and Narcoticks. But he bids us deal cautiously with them, leſt the Morbiſick Matter diſperſed in the Brain, be thereby more cloſely and deeply fixed in. Yet he ſays his liquid

Landanum, prepared with Salt of Tartar and Juice of Quinces, has been often effectually uſed, either taken by it ſelf, or in any convenient Liquor and Doſe.

For this Purpose he alſo applies externally ſoporiferous Epithems, to the Temples and fore-Part of the Head to cauſe Sleep; likewiſe Lambs and Weathers Lungs reeking hot, or Pigeons or Chickens cut in two and laid to the Head. Houſleek alſo bruised in Woman's Milk and laid to the fore-Part of the Head, he aſſerts to be very good. Yet all theſe Things he bids us be ſure to uſe with Reſpect to the Patient's Strength, or elſe our Labour is in Vain; for if we deſtroy the Animal Spirits, we cure the Diſeaſe by killing the Patient. Therefore to preſerve Strength he adviſes to take about 20 Drops of the Tincture of Coral twice or thrice a Day, in a proper Cordial Draught.

§. 17.

Splivius, to correct the ſharp Choler which he ſuppoſes moſt commonly to be the Cause of the *Delirium*, and which weakens the natural Conſiſtency of the Blood, and ſometimes deſtroys the Foundations of Life, uſes chiefly this following Mixture,

Take of *Diaſcordium* of *Fraacaſtorius* two Drachms, Confection of Hyacinth one Drachm, Syrup of white Poppy one Ounce, Water of Plantain two Ounces, Fennel one Ounce. Mix them.

This he gives by a Spoonful at a Time and very often; adviſing likewiſe in this Caſe to let Blood.

He calls in also Dietetic Remedies to correct the sharp Choler. Commending a gentle cool Air, fattish Victuals, Almond-Milk, Barley-Broth, or Emulsions prepared of them, because these Things do dull and correct the sharp Particles of the Choler. He says that a Jelly of young Flesh has the same Effect, for the same Reason, because it abates the Acrimony of the Choler and dulls it. He much commends small Beer brewed with Barley, and Pilsens of the same with Liquorice, Raisins and Currans skin'd, with which the vitious Matter, to wit, the Sharpness of the Choler is corrected, and Rest is absolutely commanded both to the Body and Mind. He thinks likewise that Mirth and Sadness, provided it be but moderate, contribute much to the Cure of this Disease.

§. 18.

Cartes and his Followers commend Opiates to mitigate a Delirium, alluage Ravings, regulate the Disorders of the Blood, and allay the burning Fury of the Animal Spirits, which are caused chiefly by irregular Particles and Intervention of a subtil Matter. Which Opiates force these furious Spirits to a Repose, stop, and, as it were, conglutinate the Nerves, and gently correct those sharp Particles which so cut the Fibres and Branches of the Nerves, that the Fibres which before were stretch'd like Strings of an Instrument, run back and are turn'd into certain round Curles or Circles, which foresaid Rings or Curles being got into the Passages of the Nerves stop the gliding Spirits, so that they cannot be carried to the several Parts of the

Body and discharge their Natural Offices. The *Cartesians* likewise do magnifie precipitating (by others commonly called cooling) Medicines; as, *Nitrum Perlatum*, which being dissolved in Water is of great Use, because it fixes the Spirits and Blood, and also opens Obstructions; they also commend distilled Vinegar, *Antimonium Diaphoreticum*, and all heavy Thiags, as Pearl, Coral, all shelly Things, all Martiates, Chalk, Bole, each of which put a Stop to the Animal Spirits, and retard the Motion of the Blood, that neither the one nor the other can fall out; for which End he so much commends the forementioned Opiates.

§. 19.

Our own Opinion in curing this Disease (besides the Dietetick Cure to be observed as before) is as follows. There must be all Care imaginable taken that the Animal Spirits dispersed and enraged, be again quell'd and compos'd; which Intent is answered by Venesection and Arteriotomy in the Arm, or Forehead, or rather in the Temples, because the Blood is too quick and subtil. By which Arteriotomy I happily cured a certain Butcher that was Frantick, without any other Remedy: the wound of the Artery after Incision, being bound up with the common Plaster of Hares Furr and the whites of Eggs, or by our own Styptic Liquor (or, instead thereof some other Styptic) 'tis wonderful to think how sedate the enraged Spirits do become thereby, and how well they perform their Offices. Amongst other Chyrurgical Operations which are to be used according

according as there is Occasion, the following are not to be neglected, to wit, Bleeding with Leeches, Cupping with Scarification, by which Means the raging Animal Spirits may be discharged.

We commend the Infusion of divers Liquors into the Veins, especially of Opiates, as the Anodyne Essence of Zuelfer, &c. And the Transfusion of Man's, Calf's or Lamb's Blood into the Veins of the distemper'd Person; for by this, as by a Donative or Largess, the Fury of the Animal Spirits is abated. Vescicatories likewise are not useless, which carry off the sharp Particles that offend the Spirits. And to this End also Frictions and Ligatures of the extreme Parts, Baths and washing of the Feet are convenient. Thus the German *Ephemerides* tell us of a young Man mad with Love, and so dry that his Bones would scarce hang together, that was cured by bathing in fresh Water.

We now pass on from the *Chirurgical* to the *Pharmaceutic* Part. Gentle, cooling, mollifying, loosening Clysters must be given; for in all acute Diseases strong Purges are hurtful, because they encrease the Motion of the Blood and Spirits. In like manner if there be many sulphureous Particles which do not easily give Way to strong Catharticks, which do themselves irritate the Animal Spirits, I would advise gentler Lenitives to be given, such as Decoction of Tamarinds, of Barley, with Raisins and Roots of Sorrel, adding, to make it grateful to the Taste, either Syrup of wild Poppy, or Barberries, or Wood-Sorrel, &c. all which do wonderful well perform their desired Effect. To compose and allay the Fury of the Animal Spirits wa-

try and acid Things are good; for they restore the *Serum*, which if wanting may be prejudicial; such are Water of Endive, Plantain, Sorrel, Whey, divers Juleps, &c.

Amongst *Acids* these excel; The Juice of Citrons, acid Pomgranates, Sorrel; acid Mineral Spirits, of Vitriol, *Clyssius Mineralis Antimonii*, Phlegm of Vitriol, Tincture of Roses, of the four Cordial Flowers, &c.

Nitrous Things also, which are reckoned amongst *Acids*, do very much abate the Heat of the Blood, and assuage and bridle the roving Spirits; as, *Nitrum Antimoniatum*, *Perlatus*, Nitrous Mineral Waters, &c.

Terreous, or Earthy Things also are to be given for the same Purpose, because they do the Work by precipitating, and those are Coral, Pearl, the five precious Stones, Shells, Unicorn's Horn, and almost all ponderous Things. For the sake of young Practitioners, we set down the following Forms.

Take of Water of Endive, Wood-Sorrel of each three Ounces, Plantain one Ounce and a half, Spirit of Nitre thirty Grains, Syrup of wild Poppy one Ounce. Mix them and make a Julep. Or, Take of the four greater cold Seeds, of each one Drachm, white Poppy an Ounce and a half, With Water of Endive, Self-Heal, Lettuce as much of each as you please, make an Emulsion, adding in the End a Drachm of prepared Coral.

A Decoction of Hips is commended by some. Or,

Take

Take of *Lapis Prunella* (or of *Nitrum Antimoniatum*) an Ounce and a half, burnt Harts-Horn half an Ounce. Mix them. Let some of this Powder be put in Whey or ordinary Drink.

Also Tincture of Roses, Violets, Essence of Pimpernel compound, *Minera Saturni*, &c. are very good.

But if these excellent Medicaments prove unsuccessful, our last Recourse is to Opiates, that seldom or never fail; for they compose the disordered Spirits, refresh decayed Nature, and when tired out, do cherish her with pleasing Rest. Or they bridle the raging *Lympha*, or the too much fermenting mass of Blood, and do also reduce the tumultuous Spirits under their former Government. But one Thing is to be observed of Opiates, when they have to do with a Phrenzy that comes of a Fever; that when the Fever is predominant they are not so certain, nor do so exactly answer the Physician's Expectation; yet if they are given when the Fever declines they prove very effectual, as also the experienc'd Dr. *Sydenham* observes in his excellent Book of Fevers; and there you will find the Reason why they are not Effectual if given before. We saw the same Effect in a certain Woman at *Limbourg*, who in the Declension of a malignant Fever, drank a quarter of a Pint of rich Wine, and fell into a Phrenzy, whom we fortunately recovered with the following Opiate mixture, given now and then to three Spoonfuls at a Time.

Take of Water of Betony, Borrage of each an Ounce and a half, Tin-

cture of Roses six Ounces, Opiate *Laudanum* cut five Grains, Confection of Hyacinth one Drachm, Syrup of Sorrel, Citron of each six Drachms. Spirit of *Sal Armoniac*. ten Grains. Mix them, and let it be given as aforesaid.

But the Narcoticks are not by any Means to be given when we think the Patient is weak, and that a *Crisis* is at Hand; and we must always begin with a very little Dose, to see what the Blood can bear, as, suppose, with this.

Take of Syrup of Poppy three Drachms, Opiate *Laudanum* one Grain. Mix them. Afterwards always the Dose may be increased.

The *Pulvis absorbens* of *Wedelius* described in his excellent Treatise of *Opium* does the same Thing. The Anodyne Tincture of *Zuelfer* from a Drachm to a Drachm and a half, *Laudanum Cydoniatum* of *Hoffman*, our own *Theriaca Celestis*, and somniferous Emulsions, and several other such sort of soporiferous Medicaments are very effectual in composing and allaying the raging Spirits.

Amongst Specificks we reckon our own Powder which we call *Praunon*, because it does wonderfully appease the Animal Spirits when disordered, and indeed we have done prodigious Things with it in this Disease, especially by giving it often; which we willingly communicate for the sake of young Practitioners.

Take of the Specifick Cephalick of *Michael* one Drachm, *Laudanum Cydoniatum* of *Hoffman* half a Scruple, *Nitrum Antimoniatum* half a Drachm,

Drachm, Crabs Eys prepar'd, Maggittory of *Luna*, Amber of each half a Scruple, Leaves of Gold No. 11. Mix them, and make a very fine Powder. The Dose is from half a Scruple to a Scruple, or half a Drachm.

Ground-Moss is also very good.

To remove Obstructions in the Brain and *Meninges*, and to restore the Blood to its due Mixture, the following anti-Febrifick Sudorifick may be prescribed.

Take of *Carduus benedictus* fifteen Grains, *Laudanum Opiatum* one Grain, sweet Spirit of Nitre six Drops, Water of *Carduus benedictus* two Ounces, Syrup of Poppy three Drachms. Mix them. Or, Take of *Bezoardicum minerale* half a Scruple, Water of *Carduus benedictus* three Ounces. Mix them.

Or this following Powder may be given, which hath done Wonders.

Take of *Lapis Prunella* fifteen Grains, Camphore three Grains, *Laudanum Opiatum* half a Grain. Mix them, and make a Powder.

Having done with internal now we come to external Remedies, which we would not have neglected; amongst which we advise cooling and precipitating Epithems of Water and Vinegar of Roses, or of the Seeds of white Poppy, Lettuce, Kernels of Peach Nuts, with Water of Roses, Poppy, Water Lily, Lettuce, Endive, applied to the Forehead and fore-Part of the Head. The same Effect have divers somniferous Unguents, and especially our own soporiferous

Mixture laid to the Temples in Form of a Plaister. *Willu* is for the Application of several Animals abovementioned, as Pigeons, Chickens, Whelps, &c. We shave the Head and lay thereto live Swallows cut in two in the Middle, which Secret we extremely value; for it does mightily appease and mitigate the Fury of the Animal Spirits, and a pure gentle Heat and Steam issues from them, which is very agreeable to the Pores, and very proper for removing Obstructions. Cataplasms of green Herbs, Purslain, Sempervive, Flowers of Roses, Water Lily, Chamomil, and Melilot are very good. You may also apply Leaven and Rue to the Soles of the Feet, and Epithems to the *Testes*. *Barthollett. in Method, de difficil. Respir. l. 5.* mightily commends the Pulp of Garden-Gourd bruised, and says, that if laid to the Head, when shaven, it wonderfully cools, and that herewith he cured a desperate Phrenzy.

The Cure is sometimes to be directed to the Symptoms, so that to provoke Urin, if the Patient forgets, the *Pecten* and *Perinaum* must be anointed with Oil of Scorpions and some fix'd Salt, that by the Acrimony the Bladder may be irritated.

Take of Oil of Scorpions three Drachms, Seeds of *Daucus* of *Cret* one Drachm. Mix them.

If there be violent Heat, the following Powder is convenient, which will cool, and yet not obstruct.

Take of *Nitrum Perlatum* half a Scruple, Camphore two Grains, *Bezoardicum Minerale* five Grains.

D Spirit

Spirit of Nitre is also very good.

Take two Pints of Whey in which Steel has been quenched, add thereto of Syrup of Sorrel, Citron, or some other an Ounce and an half, or of Tamarind Wine. Or, Put thirty Drops of *Mixtura simplex* or *Bezoardica* in ordinary Drink.

The following *Oxyrrhodinum* is excellent to cause a gentle Sleep.

Take of Rose-Water ten Ounces, Juice of Lettuce two Ounces, *Opium* half a Drachm, Saffron a Scruple. Mix them, and make an Epithem. Or, Take of the

Sperm of Frogs six Ounces, Juice of Crey-fish three Ounces. *Opium* corrected with Vinegar half a Drachm, Camphore, Saffron of each six Grains. Mix them.

For a Liniment to the Head use the following.

Take of *Unguentum Populneum* half an Ounce, *Laudanum Opiatum* six Grains, or of *Opium* twelve Grains, Camphore half a Scruple, Oil of white Poppy, as much as is sufficient to make a Liniment.

Or, you may apply the bruised Pulp of a Garden-Gourd, or the Juice of Lettuce, Purslain, Nightshade, &c. to the Forehead.

CHAP.

CHAP. III.

Of Melancholy.

IN the preceding Chapter we treated of the Animal Spirits, when tumultuary and ungovernable, here we find them, on the other Hand, so much dejected and declined from their Natural Briskness, that they are scarce able to perform any Function aright.

§. I. Definition.

THIS Distemper is commonly defined by others, *A certain sort of Delirium or Dotage, without a Fever and Rage, proceeding from a melancholy Humor; which in our Opinion is well enough, but for Perspicuities sake we give this Definition, A Delirium without a Fever and Rage, arising from the Dulness and Unactiveness of the Animal Spirits.*

The Essential Cause of this Distemper (if it be not clearly explain'd already) is, the Imagination's being so disturb'd as to fancy strange and monstrous Things, but yet with Fear and Sadness; whereby it comes to pass that the Animal Spirits, forgetful, as it were, of their Duties, flow less plentifully into the several Organs to perform their Offices, so that the *Viscera* being defrauded of their Spirits,

have not their due Fermentation, without which they cannot perform their proper Actions, whence the Body becomes fill'd with acid, viscid and tenacious Flegm; and then those few Spirits being entangled, and as it were agglutinated in this tough Matter, are insensibly wasted every Day, more and more, upon the loss of which the diseased Person lives very miserably. But to come nearer the Business, and to give the *Genus* of our Definition. In this Disease are found various *Delirium's*, and (as *Willis* says) fabulous Antiquity has scarce invented any *Metamorphosis* of Man; which some or other have not fancied in themselves.

§. 2. Division.

WE divide this Disease into *Melancholy Cephalic*, and *Hypochondriac*. A *Cephalic* is when the Disorder is in the Brain, and the *Hypochondria* are not in fault: The *Hypochondriac* is when the Disease has its Seat about the lower Part of the *Abdomen*.

§. 3. Part affected.

NOW we come to the *Part affected*, which according to the

Opinion of the Ancients is the Brain it self, and they say it is hurt as it is a peculiar Part; for they derive all the chief Faculties of the Soul from thence, and will have in this Case the principal Faculty thereof, that is, the Imagination, not the Cogitation or Memory, to be hurt. The excellent *Hippocrates* asserts, 6. *Epid. Sect. 8. t. 58.* that the Soul in this Distemper, is distinctly affected, and, as it were, without the Body and Brain. The Brain, say others, is hurt essentially, and that then there are no Signs of the *Præcordia*, *Hypochondria*, or of any other Part being affected, and that in that Case the Symptoms are more favourable, and that a Lividness appears in the Face: If the Brain be hurt by Communication or Consent; as by the Spleen, *Hypochondria*, or by the Womb, when a melancholy Humor is generated there, that then the Symptoms commonly ascribed to the Womb do appear in those Parts affected. For they tell us that in Child-bearing Women, whose *Lochia* are stopt, or in Maids when their Terms do not flow, the Blood is spoil'd, and becomes more fixt, and is turn'd into a melancholy Dyscrasy, and that by this Means this Distemper arises. For which Reason the Ancients blame the Spleen; but Our Opinion is, that rather the morbid Product than the Disease it self, lies there. The famous *Willis* thinks that both the Heart and Brain in this Case are affected. Some take the Corporeal Soul to be the Subject of it. *Helmont* thinks that it lies out of the Brain in the *Præcordia*, and about the Mouth of the Stomach. Our own Opinion, in short, is, That it has its Residence in the globous Frame of

the Brain, which being the principal Part, and the Fountain from whence the Animal Spirits issue out into every Corner of the Body, if they be dull, languid and unactive, the *Hypochondria*, Spleen, Liver, *Pancreas*, Mesentery, Womb, &c. being thereby deprived of their Fermentations, must needs suffer in the common Calamity, and be the Receptacles of latent Evils.

§. 4. Signs.

THE two principal Signs of this Disease are Fear and Sadness; all melancholy People are extraordinary fearful and sad; which the famous *Willis* (as we have heard above) ascribes to the Passion of the Heart; for it must needs be a Fellow-Sufferer, when the Animal Spirits are so dull and sleepy that they cannot irradiate and puff it up. For whereas naturally and in a sound state they ought to be brisk, lively, clear, fine and lucid; now they are sad, dark, and as if they were dead, and as terrible as the dismal blackness of Night, which may make the boldest Courage shake. A joyful Spirit, on the contrary (says the *Wise Man*, Prov. 17. 22, &c.) makes the days of a Man's Life pleasant and flourishing; whereas a sad Spirit causes the Bones to dry, and brings a speedy Death. Those that are affected with this Disease are weary of their Lives, infected with frightful and very intent Thoughts, have strange Convulsions of their Limbs, and are Epileptical through the whole Body. They begin to talk idly, and without any Order. They also often fall a weeping, and take Pleasure in being alone, and anon dislike what they so lately delighted in. They

They are so jealous that they think every body cheats and lays Snares for them, and are even afraid of Poison in their Bread. They sleep so little that the Nightingale is not more vigilant; and this short Repose is attended with strange frightful Dreams, which many Physicians erroneously ascribe to Vapours arising from the Spleen, which We (with those of better Judgment) impute rather to Spirits got out of their proper Sphere.

These were the *General Signs*, now we come to the *Special*. Some Melancholy People have always a foolish silly Laughter like *Democritus*; others again never cease Weeping, as if by a Pythagorean *Metempsychosis*, the Soul of *Heracitus* had transmigrated into them. Many imagine themselves Prophets and prophesy of things to come. Some do vainly fancy that they are great Kings or Princes, and that the Staff they carry in their Hands is a Scepter. Others believe that they are transform'd into a new *Species*, whence it is that they imitate the Sounds and Gestures of Cuckows, Cocks, Wolves, Dogs and other Creatures. Many think themselves earthen Pots, and therefore are afraid of meeting any Body lest they should be broken. Others that they are made of Glass, and are much concern'd lest by being too hard grasp'd they should be crush'd to Pieces. Some that they are dead, and are very importunate to be carried to their Graves. Many think they see an evil Spirit in this or the other Pot or Chest, and for that Reason they are thought by the Vulgar to be possess'd by the Devil. Others, though they fear Death, yet some wish for it, and sometimes do lay violent Hands

upon themselves; three Examples of which, I my self have known. Some think they want their Heads. Some all their Members, as Arms, Feet, &c. and fancy to themselves such a mangled Body as *Aeneas* in *Virgil* saw *Deiphobus* have.

————— *Lacerum crudeliter ora,
Ora manusq; ambas, populataq; tem-
pora raptis
Auribus, & truncas inobesto vul-
nere nares.*

Some supposing themselves to be dead, refuse to eat. Many think that Soldiers and Officers are ready to seize them and carry them to Prison; of which we have an elegant Example in the famous *Barclay, Argenid. l. 1. cap. 13.* (where he tells a Story of one *Heraleon*, who being notoriously famous at Court for his erroneous Fancying himself a Prince, fled away, and being apprehended was brought back again) but he perhaps endeavours more to be jocose than to speak the Truth. Many are afraid that the Earth will open and swallow them up. Some are intent upon Battles, Contentions, Quarrels, Studies, Prayers, or such other Employment and Course of Life as they have been conversant in, to which that of the Poet may very well be applied.

*Navita de venis, de tauris narrat
ator,
Enumerat miles vulnera, Passio-
nes.*

And some that are awake, are not unlike to others in a Dream. But to be short, It is most true which *Willis* observes, That it would be a miraculous and almost endless Toil,

to reckon up the several mad Freaks and Whimfies of Melancholy People.

§. 5. Cause.

THE Ancients reckoned the Cause of this strange Disease to be the cold & dry Intemperature of the Brain, either naturally, or only accidentally so; but thought it to proceed for the most Part from a Melancholy Humor, viz. Black Choler, which they think is lodg'd, and abides in the Vessels of the Mesentery, from whence they think Vapors like a Cloud ascend into the Head, and so far obnubilate the Animal Spirits, as to make the Brain a meer Darkness. They assert likewise that the Blood grows adust, which causes Melancholy Vapors to mount up to the Head, like the Fumes that arise from the burning of wet or green Wood, as is usual in *Delirium's* caused by Fevers. But we will not spend our Time in confuting the palpable Errors of these obstinate and hair-brain'd Fellows, who are not capable of understanding better. *Helmont* has done it already. Neither does our Design permit us; for we allow every Sect its own Opinion, and willingly let them enjoy the Fruits of their Labour. But, to the Business in Hand. Amongst remote Causes they reckon, as others do, Sadness, Grief, Solitudes, Watchings, Preternatural Stoppage of the Terms and Hemorrhoids, whence they think malignant Vapors ascend into the Head. And it is wonderful to think how stiffly the *Galenists* (who tread in their Master's steps) assert, that nothing but Vapors offend the Head, even ascribing to them the airy Phan-

tasms which arise in Dreams. Thus a Hectoring conceited *Galenist* being askt by a Gentleman in my Presence, what was the Reason that he was every Night troubled with frightful Dreams, answered, That they proceeded from Vapors arising from the Spleen. Another of them at his Elbow said, No, they are caused by Vapors and Streams flying up from the Ventricle. But to omit these Trifles, The *Galenists* do accuse the ill Disposition of the Bladder, Spleen, Liver, Kidneys, and the other *Viscera*, in which they earnestly contend that too much melancholy Blood is generated.

§. 6.

NOW we come to the *Paracelsists*, who are something nearer the Mark. They say that this melancholy Humor has an Elementary Coldness and Dryness; but yet a considerable Acidity and Acrimony, not unlike the Spirit of *Sal Armoniac*. and that it has a Power of fermenting and dissolving even the hardest Bodies, and of concocting Meats, and procuring an Appetite. Neither do they limit this Humour, commonly the Cause of the Tragedy, to the Intemperature of the Spleen, but say that it is diffused through the whole Body, which whilst it seizes the Brain (whereby the Animal Spirits become either fiery, earthy, fixt or fuliginous) causes various *Delirium's*. They also assert that this Disease sometimes comes from the Sublimation of the Mercury. Also that it is sometimes Astral, not so much from an Entity of Influence (as they call it) as from an Entity of Nature and Poison. Some also of the same Class feign I know not what

what sort of terrestrial Juice and Tartar lodging in the Blood, and annoying the Brain.

§. 7.

THE renowned Helmont thinks the Cause lies out of the Brain in the *Præcordia*, and that it is dispersed about the Orifice of the Stomach. Furthermore he proves that Poisons, which have the Power of disordering the Imagination, do not primarily affect the Brain, but only the *Præcordia* and Stomach; for whatever goes into the Stomach, is perfectly changed and turned into another Essence before it stir at all from thence. Neither does the noble Author think that Cephalick Pills draw any thing from the Head, and that if they affect the Head, alter or help it, that it is from the *Præcordia*. Nor does he accuse the thick, dark, sharp Vapors, which the *Schools* have invented, but thinks that the disorders of the sensitive Soul occasion the Madness; For which reason he places the Soul in the Center of the Body, or in the midst of the *Parenchyma* of the Stomach, wherein he supposes it to reside, rather than in the Brain, that it may the better Communicate with the rest of the Members; as all soporiferous Diseases are by him called down right Madness, which he will have to arise from filthy, and, as it were, febrile Recrements. For the *Collegia* or Fraternities of Impurities (as he improperly expresses it) do presently invade the Monarchic State, so that they do forcibly imprint a strange Phancy in the sensitive Soul; as is plain in *Opium*, *Hellbane*, &c. which Impurities en-

compassing the sensitive Soul in its Original *Viscus*, lay asleep its Intellectual Act, not being able to shine out clearly when it is so beset. And the same Author says, he has found many thus distemper'd, who have perceived the Intellectual Impressions in the lower Parts to begin to rise Confusedly upwards, and that they first fail'd in their Memory: And that therefore from hence may be gathered, that the Intellectual Faculty is seated a great way from the Head; just as the Parts that are remote from the Heart, are first of all sensible of the defect of Vital Influence. So that I have observ'd in *Delirium's*, that first of all there is a forgetting of things which we have formerly had an Impression of, instead of which arises a restless and constant Remembrance of one Particular Thing, which is like a repeated Dream, with troublesome Tossing and Pain, which is succeeded by Watching; to wit, when the former sleepy Impressions of the Brain have weaken'd the Memory, then there comes from the *Præcordia*, a waking Kind of Dream with a manifest *Delirium*. Neither, Continues he, is this *Delirium* accompanied with a Cessation of the Intellectual Power, as it is in an Apoplexy, dead Sleep, *Syncope*, &c. but it is a confused and incessant Propagation of the *Idea's* which being made in the *Præcordia* are darted upward. And seeing that in Health there is no Conception without *Idea's*, so must there needs also be many *Idea's* or Impressions in a *Delirium*. And he afterwards tells us, that Madness often proceeds from Fear, Agony, Envy, Ambition, Covetousness, and such other Perturbations

bations of the Mind, which Mad *Idea's* arising from thence, have their Incentives of their Repetitions, Periods, and Intervals of Paroxysms or inexhaustible Supplies in the Spirit of the *Præcordia*. And many other weighty Things doth he add, very necessary for the explaining the Cause of this Disease, but he is so obscure that I will rather choose to remit the Reader to the Author himself, than proceed any further.

§. 8.

Willis in this Case blames the Indisposition of the Animal Spirits, which he supposes to be naturally transparent, fine and clear, but that in Melancholists they are obscure and cloudy, and that they therefore represent the Images of things shady and dark. Which Animal Spirits, thus affected, he usually compares to Chymical Liquors, and thinks they are like an acid Spirit, destill'd from Salt, Vinegar, and such other Things; and suspects that in these Melancholy Diseases, they have such a sharp Quality as fluid Salts have. For those Spirits by reason of their saline, and as it were pointed Particles, while they stream out from the very Middle of the Brain, do not so exactly observe the Tracks and Circles of their Expansion, but make themselves many new and unusual Cavities within the globous Substance of it; and from hence happen such strange, impertinent, and for the most Part absurd Thoughts and Meditations, as now and then Melancholy People have. He thinks the *Præcordia* Cause of this Disease to be partly from the secret Disposition of the Animal

Spirits, partly from the atrabilary Dyscrasy of the Blood.

§. 9.

Now we come to Syllvius, who says expressly, that this Disease does not spare the very Functions of the Soul, and that besides confounding the simple Apprehension, that it disturbs the Operations of the Wit, takes away the Memory, and does so far distract as Continually to excite and dispose the Mind to Melancholy and Fear, and indeed with a kind of *Delirium*, sometimes more, sometimes less Considerable; and this he calls only *Melancholy*. But he gives it the Addition of *Hypochondriac* when the *Delirium* is accompanied with Fear, so that it cannot be smother'd any longer, but openly breaks out. And he says, that the *Hypochondriac* Melancholy differs from the other only in Degrees, blaming a vitious Efferveescency, chiefly when the *Succus Pancreaticus*, becoming more acid and austere, and mixing with viscid Phlegm, disturbs the Animal Spiritus; and this he commonly makes the Fund of all Calamities, and as great a Plague to the Body of Man, as *Cicero* makes *Catilin* to the City of Rome.

§. 10.

Cartes and his Followers say, that nothing is more equally distributed amongst Men, than the Soul, but that it is variously dispos'd, and exercises several Operations by Reason of its Organs. And that therefore many Things are ascribed to the Soul which ought to be imputed to the Indisposition of these. Likewise that for this Reason, that Man ought not to be

be blamed who has bad Parts or an unhappy Memory. Which they prove from Infants, who have the same Soul then, as when they become old: All the Difference being, that in Infancy the Organs are unfit, tender and mucilaginous, and likewise the Brain and Nerves are so soft, that the Impressions made will not last, and therefore the *Idea's* cannot be distinctly perceived and carried to the *Glandula Pinealis*, until such Time as the Organs are more firm and strong, and then they begin to ratiocinate and to think more distinctly. In like Manner by reason of the same Organs being weakened in old Men, we find that their Wit, Memory and Sight is hurt and decayed, and even that they return to their former Infancy again; Which cannot be through the decay of the Soul or Mind, which is immutable, but because their Organs (I suppose the Brain) are so dried, that the Impressions cannot be rightly made, and therefore the Soul is not able to judge distinctly of them: whence comes that Saying, *If an old Man had a young Man's Eyes, he would See as a young Man does.* But the Parts of the Eyes being dried and changed in old Age, must necessarily Cause a Diminution of Sight. To come closer to the Business, As long as the Parts of our Machin are disposed according to the Laws of Nature, and the Filaments are gently and lightly struck upon, so long do we act according to those Laws. But when those Filaments are out of Order, and are beat too violently, then begins a *Delirium*; just as an Instrument sounds melodiously when all its Strings are in order, and tuned according to Art; but if any one be indisposed or not

rightly Strung, then the whole Harmony is spoiled. They say too, that the tough, thick and seculent Intemperature of the Blood proceeding from a vitious Acid, does remotely contribute to this Malady; for by this Intemperature the Animal Spirits become darkned. Now to various Thoughts, are required Spirits variously disposed: Thus if they be too fine and subtil, the Judgment is extremely weakened; if they do not move regularly, divers *Delirium's* follow upon it, with Laughter, Dancing, Thoughts of Vnery, and other pleasant Conceits. But if the Animal Spirits be gross, then the Melancholists move slowly. And these Spirits having once got into the Passages or Tracks of the Brain, and reflected back, represent the same Image to the Mind; from whence they also think, that the Thing they have once conceived is always present with them. And therefore it is, that those that are Melancholy sometimes imagine they see the Devil in this or that Place, and this happens when the Animal Spirits, that are very gross and move slowly, light into those Tracks which were formerly made by the same Impression, as when the Image of the Devil has been presented to them with the Horns of a Bull, a Lyon's Breast and Tail, the Reflection from those Impressions upon the Soul through the Swiftness of the Thought causes a Perception of all these things, and forms one *Idea*. They say that the Case is the same in such as have a Fever, who sometimes imagine that they see Flies and several Creatures before their Eyes; for the Animal Spirits are then so determin'd, as they were when those little Animals were

were really present, and so represent the same *Idea* to the Soul. And as in Dreams many things are presented to the Mind, by the falling of the Animal Spirits into those Tracks that were formerly made; so it is with melancholy Persons, who, while they are awake, are as if they were in a Dream.

§. II.

WE will now give our own Opinion, and steer our Course as even as we can between the two preceding ones. It is most certain that the Animal Spirits, being defiled by some sparks arising from a vitious Acid, do hereby become slow and gross, and creep at their pleasure through those Passages of the Brain they find the most open; which when they have once entered, by reason of their Gravity they cannot easily get out of, but, as if they were plunged in the Mire, are forced to stick there. Hence it must needs follow, that one and the same *Idea* must always be present. In like Manner, seeing that the Spirits do not flow into the rest of the *Viscera* as they ought to do, those *Viscera* must needs be destitute of their Volatil Ferment, and instead thereof have another strange, wild, vitious Acid, which lies and is encreased sometimes in the Spleen, sometimes in the Stomach, sometimes in the Mesentery, sometimes in the *Pancreas*, and other Parts of the *Hypochondria*, or in some small Vessel. Many of our Countrymen take these *Viscera* to be the Parts affected, and strongly maintain, that the Cause of the Distemper lies in them, whereas the Disease is rather produc'd by a super-abounding Acid. We confess the Spleen is not to be altoge-

ther excused, because the Animal Spirits ought to pass through its many Nerves, which Spirits when they are vitiated, and become dull and unactive, the ferment of the Spleen must needs be spoiled. A false Imagination concerning any thing may also be the Cause of Melancholy, and hence comes a deprav'd Judgment, when the Soul thinks she perceives Causes out of the Body, which are within it, as when a poor Man imagins himself a King, he does really at that time perceive in himself the *Idea* of a King, but there's a wrong Application in that he does therefore think himself to be so. Thus, as in a good and healthful state of Body, the *Idea* of a King by a particular Motion of the Spirits, being represented to the Mind, makes it judge and perceive that it doth really see a King; so likewise in a morbid state, if such a Motion of the Spirits arise, it also Judges, either that it sees, or, is a King: which motion may happen when we are very solicitous for any thing, and have it always before our Eyes: for that Attention, raises a peculiar Undulation of the Spirits in the Brain, and so carries it through all the Nerves, by which Disorders the Fermentations of the Spirits in the Blood are spoiled, and that Blood again produces worse Spirits, and so the Thoughts are depraved.

All the *Phænomena* of this Distemper may be well explain'd by the Animal Spirits, which naturally and in a healthful Body are bright, brisk, and enlighten all the parts thereof; but if they be slow, lazy, and unactive, and inclining to an Acidity, and do not enlighten and so speedily pass through the whole Frame of the Brain as formerly,

merly, but rising up in the middle are furiously and blindly carry'd into the next Pores and Passages; then the Melancholick Person walks sad and heavy, imagining and speaking many absurd and ridiculous things. And in whatsoever Passage of the Brain these slow and lazy Spirits are, they are wont to stick there because of their Grossness, which is the Reason that an *Idea* once conceived is not easily obliterated, but the same Object continues present to the Mind, and the affected Person continues fixt upon some Trifle to the neglect of his more weighty Concerns. If any one fancy himself a King, a Prince, a Cock, a Lion, &c. he must necessarily imitate their Gestures, because the Spirits being dull and sluggish, are only intent upon making out that thing, which they have once feigned; and therefore he that thinks himself a Dog, will forthwith bark and imitate a Dog, which Symptoms I have observed by the taking a Philtre. And so of the rest.

§. 12. Prognostick.

AS to the *Prognostick* of this Disease, it is usually Chronical, and very hard to be cured, and may well be call'd the *Opprobrium Medicorum*, or Disgrace of Physicians, when so many Medicines are usually given without Effect. For the *Viscera*, the Shop where Fermentation is made, by reason of the slothfulness of the Animal Spirits, are almost defrauded of all their natural Ferment, the restitution of which is so difficult, that a considerable time is requir'd for the effecting of it. The greater Part of the Animal Spirits are often also lodg'd in the Pores of the Brain,

and the other few that are left become furious, from whence proceeds an Epilepsy or Convulsion. And sometimes the Passages of the Spirits are quite shut up, upon which happens an Apoplexy; but if one Passage only to the outward Parts be obstructed, thence comes a Palsy. Melancholy of a long standing, sometimes turns to Stupidity, when the Animal Spirits have block'd up all the Passages, and cannot extricate themselves. Again, sometimes this Disease turns to Madness, through the Inflammation of the Animal Spirits, which run thorow unusual Tracks and By-Paths, and cause those Symptoms which are so common in mad Men. The Spring contributes much to Melancholy, as making new Fermentations in the Blood. Autumn also does the same, because in Summer the Blood is despirited, and therefore, because of that and the ensuing Cold in Autumn, becomes thicker. It is much the same case, when melancholy Persons have drunk too much Wine; for when the Blood is brisk and spirituous with Wine, they are very merry, but when those Spirits are gon off, and they left to themselves, they grow Melancholy again.

§. 13. Dietetic Cure.

AS to the *Dietetic Cure*; Let the Air be clear and temperate, by which the Animal Spirits are rendred lightsom and brisk; and therefore it is that those that live in such an Air are merry and chearful, but become sadder than ordinary, and find a lassitude on themselves in that which is thick, cloudy, and foggy. For when the

Air

Air is clear, the subtil Matter is let in, in greater Quantities, by which subtil Matter the Animal Spirits are cheared; but if the Air be thick, the Spirits are gross and cloudy too, and less fit to offer any *Idea* to the Mind, to which, brisk, lively, lightsom, volatil and active Spirits are requir'd. Now when these gross Spirits have once took up their Stations in the Brain, they cannot well pass another Way, because of their Grossness; and this is the Reason that melancholy Persons commonly think only upon one thing, and always harp on the same string; For those dull Spirits continually keep the same seat and *Idea*, and therefore it is that those People are seldom Melancholy, who live in a subtle warm Air, as we may observe amongst the *French*. But the *Beotians*, who live in a thick Air, are heavy, slow, and dull, which occasion'd that of the Poet,

Beotum crasso jurares aëre natum.

And we may observe the same in the *Germans*, who live in a cold thick Air; as also that they are more obnoxious to these Diseases than other Nations who live in a hot and subtle Air.

Let the *Meat* and *Drink* be of good Nourishment and temperate, as Hens, Mutton, Veal, Beef-broth, porch'd Eggs, and other such Meats of easie digestion. On the other hand, Meats that are hard, and of less Nourishment, as Flesh and Fish salted and dry'd in the Smoak, and almost all sorts of Pulse; also Geese, Pork, Hare, Venison, &c. are to be avoided as dangerous; for such as the Chyle is, such is the Blood; such as the Blood is, such are the

Animal Spirits, which if they be generated of a thick viscous Blood, they cannot be brisk enough and fit to do their Duty. Thick, foggy Ale, neither well brewed nor fermented, must above all Things be avoided; neither is it good to drink too freely of strong Wines, as is evident from hence, That the poor Wretches being drunk are prone to run mad, and to cut their own Throats. On the contrary, in stead of ordinary Drink several appropriate Decoctions, especially Nitrous Mineral Waters, ought to be used; for hereby the Spirits are brought rightly to perform their several Offices, by the Help of other Spirits that assist 'em, and are gently called back to do their Work in their proper Sphere, out of which they had wandered.

Sleep and *Watching* must be moderate. For too much *Sleep* fixes the Animal Spirits deeper in the Passages of the Brain, and makes them more dull. And so of *Watching*, If it be immoderate, it wears and dissipates the few remaining Spirits.

Let the *Exercise* be moderate, especially after Supper. For that which is immoderate plainly dissipates the volatil and moveable Spirits. The same Moderation is to be used in *Rest*, for by too much *Rest* the Animal Spirits are so fixt in the Brain, that they cannot be recalled to their wonted Offices.

Amongst the *Passions of the Mind*, Mirth and Jollity must be most of all sought after. Therefore merry Company, Musick, Hunting and other Recreations, are very proper in this Case. On the contrary, Cares, Grief, and Sadness are mightily to be avoided; for the Animal Spirits

Spirits are hereby disturbed, and stopping about the globous Part of the Brain, excavate the Frame thereof, and do thereby often become the only Instruments of this sad Distemper.

As to *Evacuations* and *Retentions*, Let the Belly be kept loose, that whatever flows to the Intestins may be carried off; lest it should by its Staying there and simple Warmth, contract a putrefactive Ferment in the first Passages. If the Body be not naturally open, it must be procured by Art. Let the Terms, *Lochia*, or Child-bed-Purgations, and the accustomed Hemorrhoids be agreeable to Nature. For the Obstruction of these does very much defile the Animal Spirits; from whence it necessarily happens, that diverse sad Phantasms must needs be raised in the Brain.

§. 14. *Pharmaceutic Cure.*

WE now pass on, as our Method requires, from the *Dietetic* to the *Pharmaceutic* Part; for there is most hope of Recovery when both these are called in to Assistance. The Ancients, commonly call'd *Galenists*, order, if the Melancholy be universal, that is, in all the Veins of the Body, the *Vena Mediana* of the left Arm to be opened; or, if the Spleen only be obstructed by some Melancholy Humour, they cut the lower Vein of the Arm, which they call the *Lienaria*; and if they have been accustomed to have the Hemorrhoids, they open the Hemorrhoidal Veins about the *Anus*; but when Women have this Distemper by Reason of the Obstruction of their Courses, they use to provoke them by Venesection in the Foot,

and other Blood-evacuating Medicaments. When the Brain alone is distained with this vitious melancholick or atrabiliary Humour, especially when the Body is Plethorick, they open the *Vena Jecoraria* of the right Arm, or the *Cephalica* of the left. After that they use *Preparers*, as Roots of Succory, Borrage, Capers, and Fennel; Penny-royal, Centaury the less, Raisins, &c.

After that they use *Evacuators*, as Clysters, Apozems and Pills. To concoct and carry off the Humor, they mix *Preparers* with *Purgers*; an Example of which, for the sake of young Physicians, upon the Credit of the *Galenists*, we will here set down.

Take of Baum, Betony, Borrage, Hops, Hyssop, Maiden-Hair of each an Handful, Roots of Succory, Borrage, Fennel, Barks of Capers of each three Drachms, Citrons, Leaves of *Senna*, *Epi-thymum* of each three Drachms, Seeds of Annise, wild Carrot, Fennel of each two Drachms, of Currans one Ounce; being bruised and cut, boil them in four Pints of Water, to which squeezed and strained add of the Juice of sowre and sweet Apples, Pomegranates of each half a Pint, of Fumitory, Borrage, Roses of each six Ounces, white Sugar half a Pound. Boil and clarify it with the White of an Egg, and make an Apozem. Of which give Morning and Evening from three to four Ounces at a Dose.

Their stronger Purgers are those they call *Melanagoga*, or such as expel black Choler. Such as are
Extra

Extract of black Hellebor, *Diafenna*, *Pilule Indæ*, de *Lapide Lazuli*. Amongst which they commend the following Infusion.

Take of black Hellebor prepared one Drachm, Leaves of *Senna* half a Drachm, Anise-Seeds one Scruple, Cinamon half a Scruple. Macerate them in six Ounces of Goats Whey, after that boil them, and to the Colature add of *Electuarium Diafenna* half an Ounce. Mix them. Or, Take of Lenitive *Electuary*, *Diacatholicon* of each half an Ounce. Dissolve them in Water of Fumitory, and let it be given warm in the Morning six Hours before Dinner.

And seeing that they think this melancholy Humor (which they take to be as tenacious as Pitch) cannot easily be carried away at once, they therefore often repeat their Purgers. But some days after they endeavour to recreate the Brain and Animal Spirits by *Strengtheners*. To which end they commend the following Medicin, and such like.

Take of Conserve of Bugloss, Baum, Fumitory of each half an Ounce, *Species Diamoschu dulcis*, of Pearls, *Diamargariton frigid.* of each half a Drachm, red Coral prepar'd one Scruple. With Syrup of Plums make a soft *Electuary*, of which let the Sick Person take the Quantity of a Nutmeg two Hours before Dinner.

In this Case also, especially if there be no Heat, they commend a Drachm of *Theriaca Andromachi* dissolv'd in Fumitory-Water or

some other destilled Water. And they advise also Cuppings, Ligatures, Frictions, Cauteries, and divers such like external Applications to avert the peccant Matter. With infinite other Things which it will be too tedious to relate.

§. 15.

Paracelsus wonderfully extols as a great Secret, both for preventing, and also for curing this Disease, the Flowers of Antimony, to be given twice, thrice or four Times in a Morning, in a small Quantity of Treacle, as Occasion requires. He commends likewise Tinctures of Metals, especially of *Luna* and *Mars*, as also the Tinctures of Emerald, Sapphire, Coral, &c. which he thinks are good if only hung about the Neck. But I will forbear to ransack any further the Books of the Paracelsists, seeing they are of Opinion that these already mentioned, do far exceed all others.

§. 16.

Helmont thinking that this Disease lies in the Stomach and about it, does therefore believe that it should be cured by Stomachics not Cephalics, so that the Argument brought to the contrary concerning Hellebor falls to the Ground; for he ascribes to it a peculiar Virtue for a mad Brain; not in that the intoxicating and hurtful Quality reaches the Head, but in that it exerts its Strength in the Stomach; for after it is thrown out of it, such a Contraction follows as is usual in the Colick, which is a Sign that its

Virtue

Virtue is not carried into the Head, but other Members.

So that black Hellebor, in his Judgment, helps Madneſs, becauſe it caſes the Spleen, and Fevers of the *Præcordia* of the Ancients, and ſo diſpoſſeſſes the Enemy better than all other Vomits commonly known. This we muſt confeſs by the by, That as in other Places, ſo alſo in this *Helmont* is ſo very obſcure, that the Reader may be in the ſame Condition with *Appion* the Grammarian, who would have rais'd the Ghhoſt of *Homer* to aſk him his Country and Parentage.

§. 17.

WILLIS, after his uſual way, does very elegantly handle this Diſeaſe, the Subſtance of whoſe Opinion we will in ſhort lay down. He has three primary Indications; Firſt, the *Curatory*, which immediately reſpects the Diſeaſe, and its Conjunct Cauſe. Secondly, The *Preſervatory*, which conſiders the *Procatartætic* and Evident Cauſes. Thirdly, The *Vital*, which is concern'd in preſerving the Strength.

As to the *Curatory*, Let the more fix'd or dejected Animal Spirits be volatiliz'd and corroborated, that afterwards they being the more freely expanded, may irradiate the whole Brain, that it may perform the ſeveral Acts of Imagination, Judgment, and of the other principal Faculties; and may ſo vigorouſly activate the *Præcordia*, that the Blood being plentifully kindled, may be ſent from thence through the whole Body without any ſtop or ſtay; which Spirits are beſt cured by Admonitions and cunning Management of the diſtem-

per'd Perſon. The Mind muſt alſo above all Things be free from that curſed Paſſion of Love, Sadneſs, Hatred, Fear, &c. Likewise he would not have melancholy People left alone, but thoſe who take delight in ſerious Buſineſs, ſhould be permitted ſome gentle Employment. But if, being ſeduced by Phantaſtic Illuſions, they imagine prodigious Things of themſelves, and firmly believe them, they are to be brought out of ſuch Thoughts by ſome ingenious Trick: Many Examples of which Cures he ſays, may be found here and there amongſt the Books of Practitioners.

The ſame Author tells us, That a new Melancholy is cured ſometimes purely by well ordering and managing the Mind, and the Animal Spirits; but that one of a long ſtanding, when the Animal Spirits have contracted a ſharp Quality, and the Blood an atrabiliary Dyſcrasy, and when the Pores and Paſſages of the Brain are already of an ill Figure, is harder to be cured. But in all Sorts of Melancholy, whatever the Cauſe be, he thinks Blood-letting is very Efficacious; becauſe when the aduſt and decay'd Blood is by degrees carry'd off, always better and more ſpirituous comes in its place. A Vein may be cut either in the Arm, or the Foot, or the *Salvatella*, if the Melancholy Perſon chooſe that before any other.

He ſays, the frequent opening of the Hemorrhoid Veins is of excellent Uſe, which, as the venerable *Hippocrates* obſerves, if they bleed of themſelves, the Diſeaſe is thereby often cured.

As to *Evacuation*; He thinks it beſt to begin with it, becauſe it removes

removes that which feeds the Distemper from the first Passages, and makes way for other Remedies. But he does not allow of Evacuators that are strong; because they do not take away the Cause, to wit, the Dyscrasy of the Blood, but rather encrease it, and do but more weaken the Animal Spirits which are already dejected. And he says, the Ancients prescrib'd Hellebor, because they knew not any other Purgers at that Time. At the Beginning of the Disease he also prescribes Vomits, as he does in other Cephalic Distempers; for by these the viscous Filth of the Stomach, that often oppresses the Mind, is carried off, which being discharg'd, the Animal Spirits can more freely and cheerfully expand themselves. There are also many Times some heterogeneous Particles in the Gall-Bladder, *Ductus Pancreaticus*, and other Glandules of the Mesentery, which by Vomits, are prevented from getting into the Head. *Ex. gr.*

Take of *Oxymel simplex* one Ounce and an half, *Oxymel of Squills* an Ounce, Syrup of Tabaco two Drachms. Mix them for a Dose. Or, You may give a Decoction of the middle Bark of Elder, with one Drachm of Salt of Vitriol.

To those that are strong and sound, he gives an Infusion of *Crocus Metallorum*, also the Emerick Tartar of *Mynsicht*, and Sulphur of Antimony.

Amongst Catharticks he extols the following Apozem, to be took for some days.

Take of the Roots of Polypody of the Oak half an Ounce, *Epithymum* two Drachms, Leaves of *Senna* half an Ounce, Tamarinds six Drachms, Coriander seed three Drachms, yellow Sanders two Drachms. Boil them in fourteen Ounces of Spring Water, till four be consumed. Adding of Agarick two Drachms, Rhubarb two Drachms and an half. To the Colature clarified add of Syrup. de *Pomis purgant.* two Ounces. Mix them. Let the Sick Person take four Ounces of this once in three or four Days.

Amongst Pills, he commends *Pill tartar. Quercetani*, or, de *Succino Cratonis* half a Drachm, Resin of Jalap six Grains, Tartar vitriolated half a Drachm, Gum Ammoniac dissolved in Water as much as is sufficient. Make four or five Pills to be taken going to Bed.

Amongst Powders, he prefers before all others that of *Dioscoria* and Diatribich with Rhubarb, and he does sharply reprove the Ancients abusive Use of Purgers; who thought there went no more to the curing of this Distemper, than Purging away the Attribiliary Humor. But he lays more stress upon other Medicines; for he observes that Melancholists are always very ill after Purging, and that they seldom find any good thereby. And seeing he ascribes the Cause of this Distemper to the Dyscrasy of the Blood and Spirits, and ill Shape of the Brain, he puts altering and strengthening Remedies amongst the first Rank, and upon their Account sometimes uses Catharticks.

ticks. His choice altering Medicines are these which follow.

Take of the Conserve of Clove-Gilly-Flowers, Borrage of each two Ounces and an half, Myrobalan Peels candied six Drachms, Coral prepared one Drachm and an half, Pearls half a Drachm, Ivory, Crabs Eyes of each one Drachm, Confection of Hyacinth two Drachms, Syrup of Coral or red Poppy as much as is sufficient. Make an Electuary, of which, let the Patient Evening and Morning take two Drachms, drinking upon it a Dose of the following Julap (or any other appropriate distill'd Water.) Or, Take Cowslip-Water, black Cherry-Water of each two Ounces, Bawm four Ounces, Sugar six Drachms. Mix them, and make a Julap.

Amongst *Alterers* he also reckons our Iron Spaw Waters, which are wont to cheer Melancholy Persons extremely. For if they be plentifully drunk, they wash away the Salino-sulphureous Tincture of the Blood, and destroy its bad Ferments, cleanse the Bowels, and open Obstructions. Besides, by their binding Quality, they strengthen the *Viscera* that are too lax, and also close the Orifices of the Vessels, which open into the Brain, that an extraneous Matter may not be let into it along with the nervous Juice. And for this Reason, to wit, because they strengthen the Bowels, and shut up the Passages into the Brain, Vitriolic Preparations of Iron are usually given with great Success, both in Melancholy, and in a *Vertigo*. Which very words of the Author I thought fit

to set down here, because of the pretty Account he gives of the Use of Vitriolic Waters, instead of which he sometimes uses Chalybeate Remedies. Put one Ounce of the Filings of Steel in a Glass, with two Ounces of Juice of Oranges. Let it stand a whole Day, stirring it now and then. Pour upon it Water of Apples and White Wine of each one Pint, or of small Cyder two Pints. Let three Ounces of this be took twice in a Day. He usually also gives this following Steel-Powder.

Take Vitriol of *Mars*, Cream of Tartar, Crabs Eyes of each one Drachm. Mix them, and make a Powder to be divided into nine equal Parts, one of which may be took every Morning in some proper distilled Water.

He says Whey, provided it do not hurt the Stomach, being drunk plentifully for several days, does, like Iron Waters, wash away the salt and sulphureous Particles of the atrabiliary Blood, and that he has often found it successful. Whey of Goats Milk with *Epsihymam* infused or boiled in it, is also commended by him.

He has an excellent Broth of the Decoction of a Chicken, with the Roots of Polypody, Chervil, Fennel, Butchers-Broom, Leaves of Spleen-Wort, Harts-Tongue, which the sick Person must take in the Morning with Vitriol of *Mars* from six to ten Grains, and in like Manner Salt of Wormwood and Cream of Tartar of each one Scruple.

He thinks the Juices both of Splenetic and Antiscorbutic Herbs, drawn and distill'd, do wonderfully contribute to the correcting

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of the atrabiliary Dyscrasy of the Blood.

He says, That bathing in fresh Water in the Summer Time is very good, in that it washes out the Filth that is got into the Pores of the Flesh, and excellently procures an insensible Transpiration.

When the sick Persons cannot Sleep, or are decayed with long Watchings, and thereby become worse, he advises to have recourse to gentle Hypnoticks; as a Decoction of the Flowers of Primroses, Lettuce-Leaves, or distill'd Water of red Poppy or its Syrup. Furthermore, he thinks that Emulsions of the Seeds of white Poppy, Syrup of *Meconium*, and other things which are benign and clear the Spirits, are very good.

§. 17.

WE now proceed to *Sylbius*, who, to correct and temper that acid Humor, commends all Aromatic Things, and such as abound with fixt and volatil Salt, because, by them the Acid is usually concentr'd and weaken'd. Spirituous Things have also the same Effect, especially when joyn'd with Aromatics; as likewise fat Things, provided they be volatil and Aromatic; and also watery things, as Emulsions, all which do gently and efficaciously correct, curb, and amend that austere Humor, which for the most part gives the Disturbance in this Distemper. Nor are volatil Salts at all inferior to these in Virtue; and amongst the rest the Spirit of *Sal Armoniac* joyn'd with other Aromaticks, especially its volatil oily Salt. Hydragogues carry off and abate this austere and acid Humor that troubles the Spirits,

which is in some Measure amended, but is too redundant; such as are the Roots, Barks, Leaves and Flowers of Dwarf-Elder and Elder, Seeds of *Carthamus*, Roots of *Mechoacan* and *Jalap*, *Gummi gutta*. As to the Diabetic Cure, who ever is curious may consult the Author himself.

§. 18.

Cartes and his Followers, that they may incide, attenuate and volatilize the gross and feculent Blood, which produces Animal Spirits of the same Nature with it self, and that they may subdue every vitious Acid, that thereby such Animal Spirits as are finer, and fitter for the performing their several Operations may be generated, give Altering Medicines, which usually consist of much volatil Salt, such as all spirituous Things are: For seeing the *Phænomena* of this Disease depend for the most part upon a state of Fixity, and the conglomerated Particles of spirituous Bodies become dull by hard rubbing one against another, therefore they destil the Juices of Bettony, Scurvy-Grass, Brook-Lime, Chickweed, and such like. And because a tough and clammy Matter often offends, therefore they frequently prescribe the use of Mineral Waters which are impregnated with Iron, Vitriol, and Salts, by which the glutinous Quality in the Blood is corrected; for those Metallic Parts can pervade the straitest Passages and Pipes of the Body, and dissolve those viscid Humors, that obstruct them.

Preparations of Iron do mightily help to correct and destroy this Acidity in the Blood; especially Vitriol.

Vitriol of Mars; for if they be taken inwardly, the vitious Acid gets into them, and so a third thing is produced, and the Acid is quite soak'd up. The *Cartesians* mightily commend Vomits to carry off that *Mucus*, which often lies in the first Passages, and sticks usually to the Coats of the Stomach, and hinders the Fermentation; for by shaking this *Mucus*, they easily tear it off, and throw it out. Others think Antimoniates bear away the Bell; as the Emetic Tartar of *Stynicht* given from two to four Grains. And they commend Sulphur of Antimony, which Preparation *Willis* hath. Amongst other Purgers, they prescribe Extract of black Hellebor, to be given to the Quantity of a Drachm. To strengthen the Brain and gently bind its Pores that are become too lax, they magnifie the Tincture of *Lapis Lazuli*, Coral, Silver, and the like, all which it would be too tedious here to repeat.

§. 19.

Our own Method, in short, of curing this Disease, is, to rouse up and chear the Animal Spirits, that are quite dejected and d pressed by acid, sharp, and pointed Particles, and to cast out those slow and dull Spirits which are lodg'd in the Pores of the Brain, that are taken up with other *Idea's*.

Our Way of Cure is to breath a Vein in the lower Part of the Body, and let out the thick Blood. After that we think our greatest Care ought to be to correct that clammy Acid, which disturbs the Animal Spirits, that thereby they may be put upon their respective Offices;

And this is to be done with *Alcali's* both fix'd and volatil; but the volatil are much the best: being very fit both for absorbing the Acid and dulling its Points. And this is the Reason why volatil Salts, which correct the gross and sculent Blood, are found so advantageous to melancholy People. But seeing the Particles of the Acids are so various as to be sometimes edg'd like Swords, or Knives, sometimes pointed like Pins, or Needles, &c. therefore there ought to be divers Antiacids or Remedies against them; and hence it is that in this Distemper the Medicines are so often chang'd. To subdue this viscid Acid which sometimes is seated about the *Hypochondria*, Mesentery, Milt, &c. We commend Myrrh, and *Tinctura salutis*, which is prepared of it; for this removes all corruptive Sowreness; and by its Balsamic Virtue expels any Putrefaction. To this we do not think our *Elixir Polyphreston* inferior, which is prepared of Myrrh, Aloes, and Saffron, with the Spirit of Wine tartarised, and Oil of Tartar per Deliquium; for it has been try'd a thousand times with Success. Earthy and fix'd *Alcali's*, such as are, Crabs-Eyes, Pearls, burnt Harts-Horn, Coral, &c. as they drive away and destroy the foreign Acid, will be serviceable. Vitriol of Mars is of great Virtue. The following Prescript is very potent in expelling this inimical Acid.

Take of Cream of Tartar 1 drachm,
Vitriol of Mars, Crabs-Eyes finely powdered of each one Scruple,
Pearls half a Scruple. Mix them, and make our absorbing Powder.

The following Remedies are of the same Nature, but something stronger, as *Elixir Proprietatis* of *Paracelsus*, Tincture of Castor, Amber, &c. We give you this Prescript.

Take of the Spirit of *Sal Armoniac* half a Drachm, *Spiritus Carmi-*
nat. one Drachm and a half,
Tincture of Castor, Cinamon of
each a Scruple, of *Mars* half a
Drachm. Mix them, and give
twenty Drops at a Time.

Tincture of *Mars* prepar'd of
the Juice of *Borsdorsian* Apples, may
be given in a proper Vehicle, as
some distill'd Water, &c.

We cannot forbear reproving
many Practitioners of our Times,
who think to correct this vitious
Acid with their opening Syrups,
and other sweet Things, when they
rather do hurt with them; which
the dainty and nice People would
omit, if they did consider, that they
do not thereby dulcifie the Blood,
but rather encrease its Acrimony.
Piso's Observation makes the case
clear beyond Dispute, where he tells
us, That the Juice which Sugar is
made of, when it is out of the Cane,
turns sowre in a very little time. But
all volatil acids are good in this
Case. Amongst the volatil acid Spi-
rits *Tachenius* reckons the alcali-
fied Spirit of Wine, which is made
of the common Spirit of Wine in a
Copper Still, without any Addi-
tion either of Ashes of Liquid Tar-
tar, or common Salt, as it is wont
to be made by some. The tartar-
ified Spirit of Wine prepar'd as
follows, does Wonders in this and
other Distempers. Expose to the
Air, when the Season is extream
cold, some rich Wine in a conve-
nient Vessel, to be frozen, make a

Hole with a Stick in the Ice, and
so pour forth the Liquor that is
not congeal'd into another Vessel,
which must be set to freez again.
This do till the Liquor be con-
dens'd, and you will have this
admirable tartarified Spirit of
Wine.

Sugar is so far from having a
true sweetness, that it dissolves even
Antimony it self, with which if it
be mixt, and leisurely distill'd for
three days together, yields the su-
gar'd Oil of Antimony, or an acid
Spirit, very good for Burns. We
also find good Success with the su-
gar'd Tincture of Coral, when Coral
is calcin'd with Sugar.

When the Enemy is subdued, it
is to be cast out of the Body, which,
seeing that it often exercises its Ty-
ranny in the Stomach, Guts, *Ductus*
Pancreaticus, and other Places, must
be expell'd thence by Emetics, as
Emetic Tartar, our own Emetic
Wine, &c.

Take of Antimony prepared half
an Ounce, *Cassia Lignea* three
Drachms, the best Rhubarb two
Drachms and an half, *Calamus*
Aromaticus one Drachm, Ginger,
Galangal of each half a Drachm,
Cloves a Scruple, Cinamon half
a Drachm, white Sugar an Ounce,
Rhenish Wine sixteen Ounces.
Let the Dose be from 2 Drachms
to half an Ounce.

We commend Antimoniates in
this Disease above all other Things,
because they mightily dissolve, and
make fluid the Humors, and cause
a kind of Political Cure: For whilst
they very much tincture and cor-
rupt the Humor, so that the Excre-
ments appear green, the Patient
seeing them of that colour, thinks
all

all the vicious Matter is carried off, and thereby his melancholy Fancies and Imaginations cease. These Emetic and Cathartic Medicines must be pretty strong, or else we do not think they can irritate the sensible Parts to such a Spasmodic Contraction, as to shake off that clammy, glutinous Matter, which often sticks to the Sides of the Stomach; to which end you may give this which follows.

Take of the Juice of the middle Bark of Elder an Ounce and an half, Salt of Vitriol half a Scruple, Syrup of Fumitory one Ounce. Mix them.

Amongst Specifics is reckon'd the Extract of Hellebor, given to the Quantity of half a Drachm, especially corrected with the Spirit of Vitriol: He that does not like this Extract may have a gentler in its Room, as the Extract of Citrons to four Scruples, or an Infusion of the Leaves of Senna, and Rhubarb, with Salt of Tartar, or a Decoction of Raisins with Leaves of Senna, a Pint and an half for several Doses; or the following Pills, which yet are not so proper for dry Constitutions.

Take *Extractum diacatholicon* half a Drachm, Magistery of Luna half a Scruple. Mix them, and make Pills to be took at Night.

We do also with good Success often give several Clysters of Carminatives that qualifie the Acidity, and at the same Time loosen the Body, and make the Mucus fluid. There is a Specific virtue in Antimony against Melancholy, and no-

thing so much purges it, as Antimony does. We may use Infusions and Medicated Wines. Purgers are best infus'd in Whey, or its Water, or in Water of Apples, with May Dew, and distilled. After Purging we must proceed to Specific Alterers, which rouse up, and set the Animal Spirits at work. To this End we use to mix Steel-Medicines with the Volatils above commended.

Take of Spirit of *Sal Armoniacæ*, with Amber half a Drachm, *Spiritus Carminat.* two Drachms, Tincture of Cassia, Cinamon of each one Scruple, of Mars half a Drachm, Water of Fumitory, Centaury the less of each two Ounces, Syrup of Cinamon half an Ounce. Mix them, and give them in a Glass.

The Essence of Fumitory, and its Juice may be taken for some days in Whey; for Fumitory will not admit of long boiling, because of its volatil Salt.

The Antimonial Tincture of Tartar, the Essence of Steel, the simple Tincture of Tartar, &c. are prefer'd before all other Alterers.

Several Distillations of Juices, Whey, and such like, are proper; especially Iron-Waters which may be artificially prepared of Steel and *Clyssus*, of which see *Schroder*. As to Mineral Waters we chiefly commend those of *Schwalbac* in Germany, which upon many Trials have been found to do much good; for they correct the vicious Acid, cut the clammy Matter, humor and bridle the disorder'd Spirits, amend the faults of the Fermentation, and are often a present Remedy. For no one doubts that

Sickness as well as Health, does either immediately or mediately depend on the Fermentation of the Blood. Camphore is better than *Opium*, because it has more subtile Parts, and sooner flies away. If it be suspected that the Patient has had a Philtre given him, let him, after a Vomit, take Powder of a Secundine with Treacle, also the Ministry of Mans Skull, and the Electuary of *Hartman*.

As to the Chirurgic Part we commend, with the famous *Etymol-lerus*, the Infusion of several volatilis and other Liquors; but seeing that this excellent Man has discussed copiously upon this Subject in his Disputation concerning *Insufory Surgery*, we refer the curious Reader thither, that we

may not be tedious. To which we over and above add this one Instance, That we, with good success, once insus'd Tincture of *Mars* several times into the Veins of a certain Man, who was very Melancholy. Yet I know but few, if any, that have been so curious, or that durst for fear of Censure, make Tryal of it.

We have often advised the opening of the Hemorrhoids and Arteries of the Temples; as also the Application of Cauteries, with great Success; for bad Blood is always succeeded by better from the Chyle? But there must ever in this Case regard be had to the Patients Strength, and other Circumstances.

CHAP.

CHAP. IV.

Of Madness.

§. I. Definition.

MADNESS (by the Latines call'd *Furor* or *Insania*) is commonly defin'd; A hot Distemper arising in the Substance of the Brain, without a Fever, by which the Imagination and Reason is hurt, the Memory many times being unconcerned. We had rather define it thus; A *Delirium* with an extraordinary Wildness, and Alienation of Mind, without a Fever, caused by the Extravagation and Irregular Motion of the enflamed Animal Spirits. These Diseases, *Phrenzy*, *Melancholy*, and *Madness* are near akin, in all which the Reason is disturb'd.

§. 2. Difference.

They differ thus; a *Phrenzy* has always a burning Fever along with it. In *Melancholy* and *Madness* the Ratiocination is affected, and the Patient speaks, acts, and imagines absurd, impertinent Things; but those that are mad, are far more turbulent in their Anger, Fierceness, Brawlings, Shoutings, and dreadful Looks, than melancholy Persons are; so that some define and describe Madness to be,

A strong *Melancholy*. Again, *Melancholy* is accompany'd with Fear and Sadness; but *Madness* is attended with Boldness, Raging, and without a Fever; yet they are changed one into another: For this Smoak will easily take Fire. Thus, the Animal Spirits in *Melancholy*, are as it were darkned with Smoak; in *Madness* they seem to be in a perfect Flame. Those that are mad are as desirous to bite as mad Dogs, and ravenous Wolves, and so this Distemper is call'd for that Reason, *Cynanthropia*, & *Lycanthropia*, *Demonium Caninum* and *Lupinum*. Nor is it any Wonder they do not spare others, when they, many Times, lay violent hands upon themselves.

§. 3. Part affected.

THE Part affected according to the Ancients, is the Brain, which they prove from the principal Functions of the Soul being hurt; and so they say the Brain in this case is affected, either Primarily, or by Consent. Some take the Soul it self for the Subject; for *Cartes* supposes two Substances in Man really distinct, one *Innate*, the other *Material* or *Organical*, which yet are both so closely, and

intimately joyn'd and united, that the Animal Spirits discharge all their Offices and Motions at the Command of the Soul: and these he thinks in this Case to be affected.

Ættilis takes the Animal Spirits, declining from their natural and genuine Temper, and becoming like Stygian Water, and also the Brain too for the Part affected.

But we imagine the Seat of this Calamity to be all the Pores of the Brain, in which Ideas are usually formed, and the Spirits are lodg'd.

§. 4. Signs.

Those that are taken with this Disease seem to be as mad as wild Beasts, nor do they differ much from them; for they fly upon every Body they meet, and wound them, as did those two in Sacred Scripture (*Math. 8. 28, 29.*) not so much as sparing their Parents. Sometimes again they become mild, but are still intractable, talkative, singing, jumping, strangely tossing their Bodies, and always look furly, and haughtily, fearlessly, and impudently. But the common Symptoms, which attend all mad Men, are, constant Watching, and a Prodigious *Herculean* Strength, which whoever tries it will be to his cost. They can endure also the greatest Cold, Hunger, and Stripes without any sensible Harm. They swear, shout, and are always playing apish Tricks, often pulling off their own Hair, tearing their Cloths, breaking their Windows and Coffers. They are strong and never tired out, and are always muttering something to themselves of

great Things, as Contentions, Fire, &c. Sometimes they are merry, sometimes sad, sometimes fearful where no Fear is. Becoming of a sudden, hasty, angry, and boist'rous, they break their Chains and Fetters; and beat to pieces Walls and Doors; for tho they neither sleep Day nor Night, yet they are incredibly strong, by Reason of the fiery strength of the Animal Spirits, which darts through all the Pores. Hence also it is that they can endure the severest Cold without the least Concern, tho stark naked, as *Helmont* has observed in his Tract called *Demens Idea*, in these words: "It is peculiar to a mad Man, that although he lie stark naked all Night upon the bare Ground or Stones, yet he is not frozen, nor are his Limbs mortified with the sharpest North Winds. A mad Man is not sensible of any Cold; because, as some think, the Soul is so busie within, that it does not attend to what is of less concern without, nor has any Regard to Cold, whereupon it does not value the Ease of the nervous little Fibres, so that they scarce perceive Hunger, Stripes and other Inconveniences. Sometimes they are so much in earnest that they bite, or strike, or some other Way abuse their Friends as they stand by them, and are as savage as wild Beasts. Their Eyes look stern, big, and attentive, and are always contriving some mischief, because the Animal Spirit pass furiously through the Brain. And sometimes they are so mad, as to reproach and curse themselves, and then they must be fetter'd. Sometimes they have a Pain in their Head, and watch immoderately, by Reason of fiery Animal

Animal Spirits irradiating the whole Brain. Fear, Love, Ambition, Cares, Study, &c. are, for the most part, Fore-runners of Madness, according to *Helmont*, who says, Madness proceeds from Fear, Agony, Wrath, Envy, Ambition, Love, Study, Care, Shame, and other such like things. Sometimes they are prone to Venery, and are solicitous about Business that does not concern them. But we need not spend any more Time upon these Things, seeing that we have daily a thousand Examples before us.

§. 5. Cause.

THE Cause of Madness, according to the *Antients*, that is, the *Galenists*, is, ill Humors, as adust Melancholy, yellow and burning hot Choler, and adust Blood, chang'd into the Nature of Melancholy. This Distemper, say they, sometimes comes from the hot Intemperature of the Brain; but if hot yellow Choler be the Cause, that then a wild kind of *Delirium* follows; so, that the Patients become desperate, and so strong that they are formidable. But if this Disease proceed from superfluity of hot and adust Blood, chang'd into both the sorts of Choler, flying violently into the Head, then they observe that the distemper'd Person expresses his Madness most by Laughing and Singing.

§. 6.

Paracelsus, c. 2. de *Morbis Ammentum*, says, Madness proceeds from the three first Principles. And, l. 10. §. de cap. advers. intern. §. 3. he asserts, That Madness,

Phrenzy, and all the Species of Madness come from the Obstruction of the Part, by Heat or Cold dissolved or coagulated. And, l. 1. de virib. *Membrorum*, c. 3. he says, Where the Spirit of Life cannot reach, there a Disease is bred; to wit, if it is stop'd, there arises Putrefaction, and Exulceration; for it dyes in that Place. Also, c. 2. de *Morbis*, he makes two sorts of Madness; one which comes from Distillation, when the vapor lies in the Head; the other from Sublimation, when it is coagulated in the Head. And he tells us in the same Place, that it cannot well be understood, what is the first Occasion and Mine of this Distemper; but he guesses the Cause (in what ever Part of the Body it lie) to be the Mercury reverberated into *Calx*, and resolved into a most strong Water, which is mixt with the Spirit of Life, and enflames it. And he says, That that Water is so subtil, that it will not stay in the Bottom, but flies up as high as it can get; and as soon as it reaches the Brain, that it causes Madness, as *Petrus*, a Follower of *Paracelsus*, tells us in his *Nosologia Harmonica Dogmatica & Hermetica*.

§. 7.

THE Famous *Helmont* thinks all Madness arises from the blooming of conceptual strange *Idea's*, which do show themselves, just as the Mark of a Cherry or other Mole from the Mothers longing, grows green or red at the Season of the Fruits; and so these mad *Idea's*, that come from Perturbations, (as he expresses it) have in the Spirit of the *Præcordia*, their incentive Intervals of Returns and Periods; and

and that in Hypochondriacal Mad-
nesses, there is a certain Poison,
which causes either a furious or a
merry Distraction.

If we may be allowed the same
Liberty with *Helmont*, why may
not we feign a rustick Madness, that
in its drunken Fits makes all this
bustle, and causes a Disturbance in
the Spirits?

§. 8.

WE will now examine *Wil-*
lis's Opinion, who treat-
ing of the Cause of this Disease,
says, that it is occasion'd by the
Animal Spirits that degenerate
from their mild and benign Na-
ture, that is, from their saline Spi-
rit, and turn sharp, as if they did
participate of fluid salt and Arse-
nical Sulphur; which vicious Spi-
rits are bred of deprav'd, and nitro-
sulphureous Blood. He also thinks
that poisonous Ferments got into
the Blood or the nervous Juice,
may easily breed this Distemper,
whch he proves by the biting of a
mad Dog, or drinking of Poison.
He gives this Reason for Madmen's
daring Boldness; That their Ani-
mal Spirits are very fierce, and car-
ry the Soul, as it were, out of the
Limits of the Body. Their im-
mense Strength he explains thus;
That in their Blood and nervous
Juice, there are nitro-sulphureous
or other very sharp, or Stygian-
like Particles; whence it is that the
Animal Spirits are endued with an
Elastick or Explosive Force, and
far exceeding the natural. Their
enduring Cold, Heat, Stripes,
Watching, Fasting, &c. with-
out any sensible Hurt, is, in
this Author's Opinion, because of
the Strength and Fixedness of

their Spirits, and their unaptness to
fly away.

§. 9.

THE *Sylvians* in this Case ac-
cuse the Excandescence of the
Animal Spirits, caused for the most
Part by a vitious Effervescency. And
they ascribe all the Symptoms of
mad Men to a remote Cause, i. e.
the *Succus Pancreaticus* stagnating
and corrupted. Which *Sylvius*,
their Master, discourses more large-
ly of in his *Praxis*, Cap. de
Mania.

§. 10.

CARTES and his Tribe argue,
that this wonderful Passion of
the Soul consists in the irregular
Motion of the hot Animal Spirits.
For, according to them, the Soul
is so long quiet, as the Motions in
the Body are gentle and without
Tumult; and this, say they, con-
sists in a gentle Fermentation of
the Blood. For so long as that
continues, the Spirits in the Brain
are equally poiz'd, but as soon as
a violent Motion, by some extra-
neous latent Ferment is brought
upon the Blood so dispos'd, as it
is in melancholy Persons, the Ani-
mal Spirits are carried with such
violence into the Brain, that they
do not obey the Soul: for as a
gentle and mild Motion of well
temper'd Spirits, usually causes
sedate, pleasant, wise, and calm
Thoughts: So on the other Hand,
hot and pricking Spirits too vehe-
mently moved, usually make a
man fierce, angry, bold, impu-
dent, &c. Thus do they suppose
the Animal Spirits of mad Men to
be dispos'd. The gross but fer-
mentable

mentable Blood, and which is violently moved by some occasional Cause, as Anger, Terror, &c. is reckon'd by them the remote Cause (for the *Cartesians* suppose in the Blood of mad Men, a most strong Ferment.) But a certain Ferment, consisting of irregular Particles, proceeding from some external Cause raising Passions in the Soul, is often carried violently towards the Brain, and opens the Pores of the little Arteries of the *Plexus Choroideus* wider than usual. And then the Motion of the pleasant Animal Spirits, is taken away by the Afflux of these heterogeneous Particles, which Spirits being kindled they suppose to rove up and down the whole Brain, but more particularly about the *Glandula Pinealis*, which darting violently like a Thunderbolt into the Brain and Nerves, do perfectly withdraw the *Glandula* from the Jurisdiction of the Mind, which being thus fool'd by those head-strong Spirits, and denied all Command over the Body, can no longer govern the Attention; and from thence they derive all those disorderly Gestures, Quarrels, Brawlings, &c.

§. II.

Now let us give Our own Opinion; We confess that *Cartes* in his Discourse of the Passions, has very well explained the *Phænomena* of this Distemper, to wit, how Anger is caus'd, as, when a Man is evil spoken of: for when the Mind is intent upon that Impression, the Spirits, by the Motion of the Common Sensory, occasion'd by a certain agitation, are forced through the Tubes of the Nerves, into all those Members of

the Body that serve for Revenge. In like manner the Motions of the Blood and Humors circulating, whilst that they are moved by a strange Ferment, become swifter. But we will explain it as follows.

To which purpose we will measure out our Way betwixt the Qualities of *Hippocrates*, and *Democritus* his Salts, which act variously according to the diversity of their Figures. In this Distemper the Animal Spirits are enflamed, which being thus set on fire, like *Sampson's* Foxes, run through every little furrow of the Brain, and form all sorts of *Idea's*, especially those which were before conceived of Boldness, Madnefs, Burnings, Brawlings, &c. they also rush furiously into all the Parts of the Body, which they very much irradiate; and this is the reason why Madmen are so extraordinary strong, and can endure the sharpest Cold, and other Inconveniences. Amongst remote Causes we reckon the Blood, consisting of many fix'd and irregular Particles, because it administers Fuel to the enflamed Spirits; which if it acquire any acid volatill Ferment, it sets fire to the Animal Spirits. The Spirits in the Brain should be equally balanc'd; but as soon as they are put into any violent Motion, either by such Blood, or some wild bilious Sulphureous Ferment lurking in the Blood, then the Animal Spirits are set on fire. Poison and several other Things may bring this Distemper: Thus the German *Ephemerides An. 3.* tell us of a Country Fellow, who taking a nap under a Tree, when he awak'd was raving mad, and so continued for the space of half a year,

but

but a vehement sneezing being raised by taking an Ounce of Tabaco, there came out a long hairy black Palmer Worm, after the voiding of which, he was perfectly well again. And the same *Ephemerides* take notice, that Madness has succeeded the Cure of malignant Small Pox. Likewise the Experienc'd *Estmullerus*, the famous Professor of *Lipsick*, gives a notable Relation in *Disp. de morfu Viperae*, That at *Torgavia*, a neighbouring Town, a Mad-woman (who, as 'twas imagin'd, became so by a Love-Poison) by biting the Officer near the Arm-Pits, who was going to secure her, gave him the same Distemper, in so much that the next day he was as mad as the Woman had been, but she grew better upon it. And I my self have known the Bite of one in Wrath, to have caused a Madness and an incurable Wound. For Cholera, when it is predominant (as we observed before) is often the Cause of this Distemper, provided as *Democritus* says to *Hippocrates*, that it move swiftly and Anger make it communicate its sharpness to the Animal Spirits: For it is observable, that angry Persons seldom abide in one place, are very hot, and in a great Chase, and if they bite with their Teeth, they leave Poison in the Part, as the above-named History testifies. In like manner this Madness may come from Fear, or a Desire of Revenge; as *Orestes* (in *Euripides*) after he had kill'd his Mother, was distracted, till he made Satisfaction for the Crime at *Diana's* Altar. And *Empedocles* being mad with Pride, leaped into flaming *Aetna*, according to that of *Horace*;

——— *Deus immortalis haberi,
Dum capis Empedocles, ardentem frigidus Aetnam
Insiliit.* ———

All the *Phænomena* of this Distemper, may easily be explain'd from what has been already said.

§. 12. Prognostick.

YOUNG and middle aged People are most obnoxious to this Distemper, nor are old Men altogether free. We knew a Couple of such Old Mad-men, of sixty years apiece, but of so very dry and meagre Constitutions and Textures, as that it might easily be guess'd that their Animal Spirits within them, were as hot as fire it self. That Madness, as *Hippocrates* says, *Secl. 6. Aph. 53.* is less dangerous, that is accompanied with Laughter, than with Seriousness; and the greater the Rashness is that attends it, the more dangerous it is. But when the Distemper has taken deep Root, it is hard to be cured, For the Impressions, which were formerly made in the Brain, being afterwards ras'd out, and as it were burn'd up, cannot be recover'd again; because it is not possible to get out those Wrinkles, which are once firmly impress'd in it; as when any Impression is lightly made with a Needle upon Paper or Leather, in Time, and by rubbing the Paper, the Impression is quite obliterated; but if the Needle go very deep, and make holes, the Impression can never be got out.

A bad Stomach, and Ulcers in the Face, Arms, and Feet, are ill Signs. But if Sleep mitigate the *Delirium*,

Delirium, it signifies Good, as *Hippocrates* testifies, *Sect. 2. Aph. 2.* Likewise if mad People have the *Varices* and Hemorrhoids, the *Distemper* is cured, *Sect. 6. Aph. 21.* Watchings of long Continuance are dangerous. This Disease easily turns to Melancholy and Folly, for a Time, till new incentive Ferments enflame the Animal Spirits; and this happens two Ways, either from the Soul, or from the Body. The Soul makes the most tiresome and ingrateful Things easie to it in Continuance of Time, and contemplates them with less Concern. From the Body thus: One sort of Madness is caus'd by a certain Ferment, which at last is spent; yet cannot be so consum'd but some Reliques must be left in the Solid Parts, which by some external Cause may be set afoot again, and so the Madness returns. If it be inveterate or hereditary, or caus'd by the Bite of a mad Dog or other mad Creature, it is seldom, for the Cause above-said, perfectly cur'd; for the old Impressions of the Brain being once worn out, and the Spirits enflam'd, and degenerating from their genuine Temper, are seldom reduc'd to their former State; Of which we have treated more largely above, especially where we gave the Causes of this miserable Distemper.

S. 13. Dietetic Cure.

The Dietetic Cure consists in the due Observation of the Six *Non-Naturals*. Let the Air be temperate, rather inclining to Cold and Moistness; but carefully avoid an Air too hot and impure: And decline going abroad in the Spring; for the great *Hippocrates*, *Sect. 3.*

Aph. 20. says, Madness, Fury, and melancholy Diseases have their Birth in the Spring, when Beans are in Flower, according to the Verse,

Cum faba florescit Stultorum insania crescit.

It may happen at any other Time, but especially in the Dog-Days, and some I have seen go mad in Winter. For as the Sea, through the violence of Tempests, swells up from the Bottom, and raises its proud Billows; so likewise when the Winds are very buisterous, the Humors boil in the Body with a kind of Tide; which being carried into the Brain, and disturbing the Animal Spirits, raise confused Motions in the Soul, and cause Disquiet and Distraction. And this is the Reason that in tempestuous Weather there are so many Storms in the Passions, such a Difficulty in Speaking, such Anger in the Mind, such Moroseness in Conversation, &c.

Let their *Meat* be cooling and moistening, as Broth of Chickens, Partridges, Hens and Pullets that are stuff'd with cooling moistening Herbs, and such other Things. Some write (how well I know not) that Hogs Brains fry'd in Butter and eaten, are very good in this Case. Windy and hot Meats are very bad, because they may kindle the Animal Spirits, as Aromatics, sharp Things, Mustard, &c. Swines-Flesh, Meats hang'd, and dry'd in the Smoak, as also all leaven'd Things are found to be very hurtful.

Let their *Drink* be cooling, as Barly-Water, or Spaw-Waters, Decoction of the Herb Pimpernel. A Decoction of Swallows, with *Lapis Prunella* I have found good by Experience

perience; but let them abstain from all Sorts of Wine, for according to the Poet,

*Vina gravant animos, faciuntq; fur-
ribus aptos.*

Wherefore rich Wines, Spirit of Wine, and other hot Cordial Waters, are by all means to be avoided: So that the Ancient Rite of the Heathens in drinking three Healths to the Honor of their Gods, is worth Observation. The first Bowl was to *Jupiter Olympius*; the second to the Hero's; the third to *Jupiter Sospitator*. Which were also of old called the Healths of the Sages. The first to their Healths; the second to their Friends; the third to their Rest. What was more than this they reckon'd Madness, and an Injury to their Healths. So we Physicians usually attribute the first Glass to quenching of the Thirst; the second to Pleasure; the third to Drunkenness; and the fourth to Madness. For as a loaded Ship in a great Storm, when the Pilot is asleep, or has lost its Rudder, cannot steer right; so he that has his Senses overwhelmed with Wine, and his Mind oppress'd, runs against the Rocks of Folly; which *Pythagoras* observing, said, That Drunkenness was the Exercise of Madness. Again he says, *apud Stob. Serm.* That drunken Men as well as old Men, become twice Children. *Chrysostom* called Drunkenness, a running out of ones Wits. Yea, it must needs be, that *Vinlentia* turns into *Violentia*.

Let their Exercise be moderate; therefore Running, Leaping, &c. must be avoided.

More than ordinary Sleep is very convenient in this Case, which

must be provoked by inward and outward refrigerating and cooling Medicaments. For (according to *Hippocrates*) so long as the Brain is quiet, so long a Man is in his Wits. Long Watchings are hurtful.

As to *Excretion* and *Retention*, The Belly is to be kept loose. So, if the Hemorrhoids and Courses be stoppt, they must by all means be forced; and likewise of *Fistula's* and *Ulcers*, if they be stoppt, they must be made to flow again.

The Mind must be kept free from all Passions. Let Friends be admitted, but Strangers, and such as the sick Person either did or does hate, be kept from him: According to Us and *Helmant*, Fear, Agony, Envy, Ambition, Anger, Love, Study, Care, Shame, Covetousness, and other such like Perturbations must be avoided, all which serve to enflame the Blood, and enrage the Animal Spirits.

§. 14. *Pharmaceutic Cure.*

WE now come to the *Pharmaceutic Cure*. The Ancient Practitioners, especially the *Galenists*, in the Beginning of this Distemper, use Preparatives, such as are Syrup of Violets, Fumitory, Sorrel, Bugloss, Succory with Rhubarb, &c. Water of Violets, Hops, Water-Lily, Succory, Endive, Sorrel. After these they proceed to Evacuators. And first they order Blood-letting, if the Madness comes from a superfluity of very hot Blood, as they call it; which they do also if it proceed from adust Choler, without a Plenitude. And they use these following Purgers; Syrup of Roses, *Confectio Hamech*, *Diasenna*, *Alicia Pica*, *Pilula Indæ*, de *La-*
pide

pide Armeño, &c. Syrup of Violets; Leaves of Succory, Fumitory; Flowers of Water-Lily, the greater cold Seeds, Liquorice, which may be given sometimes with, sometimes without Purgers, divers Apozems and Drinks or Decoctions. Afterward also for evacuating they make Use of *Manna*, *Cassia*, *Senna*, black Hellebor, &c. Nor do they condemn Clysters of the Leaves of Violets, Lettuce, Marsh-Mallows, Mallows, Oil of Violets, of Water Lily, &c. After this these Practitioners fly to Averters and Repellers, applying Leeches to the fore Part of the Head, and to any other Part of it outwardly. The Hemorrhoids and Courses are to be provoked.

To this End they embrocate the Head with Oil of Roses, Juice of Knot-Grass and Vinegar, &c. or apply in a Rag to the fore-Part of the Head, and often change them, Epithems made of these Things; and order the Head to be fomented with a Decoction of the Flowers of *Stachas*, Chamomil, &c.

To strengthen the Brain and amend its Intemperature they commend *Species Diamargariton frigid.* *Eleliuarium de Gemmis*, *Distillation Santaloni*. Conserve of Buglois, Water-Lily, Borrage, Violets, and such other. To the Liver they apply Epithems of the Water of Endive, Roses, Sorrel, Camphore, Spikenard, &c. To the Heart Water of Buglois, Roses, Water-Lily, Vinegar, *Species Diamargariton frigid.* They highly extol a Bath of Water, wherein has been boiled Flowers of Chamomil, Melilot; Leaves of Violets, Lettuce, Willow. Also they advise to moine the Back-bone with Oil of Water-

Lilies, Sweet Almonds, Roses, Violets, &c. When the Case is almost desperate they boldly apply Cauterics to the Nape of the Neck.

§. 15.

Paracelsus thinks he has found better Remedies than those of the *Galenists*. And says *I. de Morb. Ament. c. 2.* that in the Cure of this Distemper we must have respect to two Things, to *refrigerate* and *coagulate* the peccant Matter. Amongst refrigerating and cooling Things, he reckons Narcoticks and Anodynes; the most excellent of which are his *Laudanum opiatum*, the Quintessence of Mandrake, Poppy, Henbane. But he thinks that these following are specifically good, the Quintessence or Spirit of Saturn, Mars and Mercury, the Solution of Crystal, Extract of Camphore, Gold, and the true *Aurum Potabile*, the Liquors of Luna, Sapphire and Musk, as he has it, *lib. 2. de Virib. Membr. c. 3.* and there he very much cries up the hidden Virtues of *Gilla*, which he would have distilled in the Wine of Life, and to circulate till it cannot touch the Bottom, and to be given in Malmsey: This many of the *Paracelsists* say, is Nitre distill'd with the alcalisied and rectified Spirit of Wine, which they will have to be afterwards circulated until it become altogether spiritual and volatil. Some of them think it to be a Preparation of Vitriol, which *Paracelsus* in another Place, where he makes it a specifick Cephalick, calls *Gilla* or *Grilla*.

§. 16.

Helmont treading in *Paracelsus's* Foot-steps, commends both Narcoticks and Anodynes in this Distemper, and mightily extols the Philosophic Sulphur of Vitriol, calling it Narcotic, soporiferous and sweeter than Honey; therefore he says, it is sovereign in all Alienations of Mind, and Phancies and Passions of the *Hypochondria*; for all Kinds of Narcoticks, according to him, keep the Spleen from sending such dismal *Chimera's* to the Brain. He declares black Hellebor to be very useful, because it alleviates the Uneasiness which numerous and troublesom Phantasms give the Patient. Amongst other Things he commends dipping over head in cold Water, by which he has seen many cur'd.

§. 17.

Wallis says, nothing is more necessary in this Case, than to keep the distracted Person in awe, and commends Severity of Discipline, as Threatnings, Bands, Stripes, and other such like Courses; for that Mad men may be better cur'd by beating and tormenting them in a close Room, than by Medicaments. He also advises Bleeding, Vomiting, and now and then strong Catharticks. He would have a Vein to be opened, sometimes in the Arm, sometimes in the Neck, sometimes in the Forehead, sometimes in the Foot, and this to be repeated often; for by that means he thinks that the Loftiness of the Mind is best suppress'd, and that always other calmer Blood is bred of the Chyle, and its Dyscr-

cy amended. His Emeticks in this Distemper are these:

Take of Sulphur of Antimony from eight to ten Grains, Cream of Tartar half a Scruple. Mix them. Or, Take of *Mercurius Vitæ* two Grains, Conserve of Red-Roses a Drachm. Mix them. Or, Take of Emetick Tartar from two to three Grains, Salt of Wormwood two Grains. Mix them.

He wonderfully crys up *Aurum Vitæ*, as also Mercurial Medicines, forasmuch as they are wont to work by Vomit and Stool; also by Sweat, Urin and Salivation. For this Author has seen some Mad men perfectly cured by Salivation. Amongst Purgatives he commends this which follows.

Take Extract of black Hellebor, *Calomelanos*, or, *Mercurius dulcis* of each one Scruple. Make a *Bolus*, &c.

He also highly esteems Alteratives in this Distemper. *Ex. gr.*

Take of Mineral Crystal two Ounces, prepar'd Pearls a Drachm and a half, Sugar-Candy two Ounces and a half, Camphore half a Scruple. Beat all these together and make a very fine Powder. Of which let the Sick Person often take from one to two Drachms, in small Beer or Spring-Water, and let him drink so often as he pleases, for his ordinary Drink, Whey, especially of Goats Milk, alter'd with the Flowers of Violets, Red-Roses, Water-Lilies;

He also commends the often taking of cooling Electuaries, Juleps, and destill'd Waters. For a Specific in this Distemper, he mightily crys up the Decoction of Purple-flower'd Pimpernel, also the Tops of St. Johns-wort.

If the Madness come from the Bite of venomous or mad Beasts, he commends Infusion of Apples, several Kinds of Tinctures and Emulsions.

In every Sort of Madness he advises Cupping with Scarification, as also Vesicatories and Cauteries both actual and potential. He does not easily admit of Arteriotomy, Trepaning and Mercurial Unguents, without Distinction of Persons and Cases.

He applies Lambs-Lungs reeking hot, and other hot comfortable Things, to the fore-part of the Head when the Hair is shav'd off, be the Patient never so unwilling to permit it. Whoever would be instructed further, may consult the Author himself.

§. 18.

Scribing, as well as the rest, commends Venesections, Vomitories, aqueous Alteratives, as Emulsions, Juleps, Whey, Mineral Waters, and such like Things: neither does he discommend *Lapis Prunella*. He mightily extols Vesicatories, and other external refrigerating Applications, as also Anodynes taken inwardly, and applied outwardly, as *Laudanum Opium*, *Cydonium*, &c. He affirms that cooling Clysters are of great Use. But I am unwilling to spend Time in being more accurate.

§. 19.

Cartes and his Followers say, That to diminish and stop the Motion of the Blood, Venesection, and that to a good Quantity, if the Patient be strong enough, is very convenient. As also all ponderous things which by their Gravity stop the Blood in its swift Career. To this end they usually prescribe *Lapis Prunella*, *Saccharum Saturni*, *Lapides Cancrorum*, *Laudanum Opium*, *Sanguis Draconis*, &c. And they also commend the Decoctions of the Common Woods, in that by their hard and heavy Particles, they stop the Motion of the Blood, and by the stiffness of those Particles cut it, and take away the Obstructions, especially if some of the Pores of the Common Sensory be obstructed by gross Particles. They exclude all Chirurgical Operations whatever.

§. 20.

WE are now to deliver Our own Opinion, which is, That the Animal Spirits being, as it were, all on fire, and darting themselves too furiously, and flashingly, must be extinguished, and brought to a gentle and regular Motion. This, Bleeding, often repeated, will effect, but it must be by a small Quantity at a Time, lest it cause a Dropsy, an Example of which I my self have known. Opiates are very proper in this Case, which presently compose the raging and boisterous Animal Spirits; but they must not be given immediately, nor in a large Dose; for it may fall out that the Spirits may be so exhausted by the
long

long continued Madness, that if Narcoticks should be given, they would so enfeeble the Fermentations of the Blood, that Death would follow upon it. But we must first begin with Anodynes, as likewise with a very small Dose of Camphore instead of *Opium*, to stop the Motion of the Blood; for Camphore is so subtle that no Danger can arise from thence. If the Disease begin to respite, we commend the Use of Vomitories, to take away the remote Cause; to wit, to free the Blood from many fixt Particles, and to cast out other extraneous Ferments residing in the first Passages. For by the Use of these, the Blood is discharged of those excrementitious Parts. These Vomitories are chiefly Preparations of Antimony, as *Tartarus Emeticus*, *Aqua benedicta Rulandi*, Vomitory *Sapa's*, and other Things of this Nature. To those of a more nice Palate, white Vitriol may be given. Others cry up black Hellebore and its Extract. It is our Opinion that strong Purges ought, according to Rule, to be omitted, for that they do but more encrease the inordinate Motion of the Animal Spirits, and drive them deeper into the Pores of the Brain: For in such a furious Perturbation there is an impetuous Ebullition and Effervescency of the Blood, which also arises from the Force and Irradiation of the Animal Spirits, and from thence often proceeds too great a Rarefaction and Ebullition of the Blood. Poly-pody of the Oak many times does the Business in this Case. But, to bring the Blood to its due Fermentation all Chalybeat Medicines are convenient, for they stop the Motion of the raging Spirits, and the violent Fermentation of the Blood.

The Blood of the floggish Ass, drawn from the Veins behind his Ears, has a singular and wonderful Virtue in destroying that volatril Acid. Of which *Michael* the famous Physician has given us this following Prescript.

Take a linen Cloth, and soak it a sufficient time in Asses Blood let out behind the Ears; put it in a convenient Quantity of Water of Pimpernel, and Flowers of St. Johns-wort, until the Water be tinged. Mix them and make a Potion for several Doses. With this Medicament, the aforesaid *Michael* avows that he cured one that was Mad in the Court of *Altenburgh*.

We are of Opinion that the Blood of a Dog, Hair, yea also of a fearful Man, are available in this Distemper; because there is in these Creatures a Terror, Fear and Anxiety when a Vein is breathed. This Blood has a peculiar Nature, and from thence it is that the most acute *Marcus Marci* very well says, That it is of no small Concern in what Disposition those Animals die, whose Parts are made use of in Physick.

In this Case the Transfusion of Calfs, Asses and Mans Blood, Venesection being always first premis'd, is convenient; for by it we have known many Mad-men cured at *Paris*, and I my self, as abovesaid, first try'd it with good Success upon one that was distracted. To infuse divers Medicaments, especially Opiates, into the Meseatic Veins, will not be unprofitable. Amongst Alteratives the Anti-Epileptic Spirit of *Hartman*, prepared of a Mixture of Salt of Urin, and acid Spirit of Vitriol is very good. Also in
their

their ordinary Drink, viz. in a Decoction of Pimpernel and Flowers of St. Johns-wort with two Swallows, you may put some Drops of Spirit of Vitriol, or *Lapis Prunelle* in Whey of Goats-Milk, which have a peculiar Virtue of bridling and appeasing the Animal Spirits. And, to be short, we expect the only, at least, the certainest Help in this Distemper, from Opiates, provided the Patient be strong; for they wonderfully lay asleep the Animal Spirits that are violently moved, and allay and constrain their dangerous Violence. For the Sick Persons are often in Danger by the fierceness of the Spirits, which forsaking the Conduct of the Vital Faculty, put all things in Confusion; or as *Phaeton* being slung from his Father's Chariot, fir'd the Macrocosm, so do they the Microcosm. For *Opium* does calm these Furies, assuage these Commotions, and doth wonderfully allay the Motion of the Spirits. Hence proceed's pleasant Rest, and the desired Settlement of the decomposed Spirits, and also the Turgescency of the peccant Matter and Violence of the Humors hereby easily cease; for if the Spirits be composed, which is best done by a due Use of Opiates, the Republick of the Microcosm, that was before in Confusion, does in a manner return to a settled State. If amongst Opiates you desire the more simple sort, *Meconium* (for *Opium* is scarce with us) may be digested and corrected with some fixt *Alkali Salt*, especially of Tartar, with Turpentine, or by an artificial Fermentation with Juice of Quinces, according to *Hoffman* in his *clavis Pharm. Sched.* which *Opium* so corrected becomes Anodyne without being Narcotic, and ten Grains of it do more Good

and less Harm, than thirty of any other. Of this *Laudanum Opiatum*, *Helmont* speaks very elegantly *Tr. Jus Duumiratus*, §. 64. *Happy is that Patient whose Physician knows how to separate from Poppy that which is deadly, and retain that which is useful.* Amongst Minerals, Sulphur of Vitriol, and Anodynes of Copper are very effectual; but seeing that these Medicaments are not so easily attained, we ought in the mean time to be content with Opiates. Nor do these following want their just Praise, *Theriaca celestis Hanov.* the Anodyne Tincture of *Zwelfer*, *Diacodium*, *Theriaca Andromachi*, and others which we purposely omit; for we cannot be particular in every thing, designing only to give a general Scheme. Nothing will more fix and settle the raging Animal Spirits than Oil of Pearls rightly prepared, the Efficacy of which we have often Experienced in this Distemper. This following Lunar Spirit is also very good.

Take of the Filings of Silver one Part, of Sulphur two Parts. After they are gently melted and united in a Crucible, and pulveriz'd, pour upon it Spirit of *Sal Armoniac*. Extract a Tincture according to Art, which crystallize, and with a Retort draw a Lunar Spirit. The Dose is from sixteen to twenty Drops.

If the Patient cannot sleep; the following Potion may be given about Bed-Time.

Take of *Laudanum Opiatum* two Grains. Dissolve it in a sufficient Quantity of Essence of Pimpernel and St. Johns-wort.

F 2

Sweeten

Sweeten it a little, and give it at once.

They commend Musick in the Biting of a *Tarantula*, and in the Distemper arising from thence, which is like to this in every thing; and since others have done it, I think we may make Tryal of it. Amongst the most ready Specifics is the Blood of an Ass drawn from behind the Ears, destill'd with the Flowers of St. Johns-wort, Juice of Pimpernel, Roots and Seeds of wild Fennel; and these are also good if infus'd in their ordinary Drink. Agrimony boil'd in Spring Water is excellent. I have often known good Success from this which follows.

Take of *Confectio Allhermes* one Ounce, Tincture of *Lapis Lazuli* half a Drachm, of Amber two Scruples, Essence of St. Johns-wort, Pimpernel of each half a Drachm, Magistery of *Luna* half a Drachm. Mix them. The Dose is one Ounce Morning and Evening. Or, Take of Water of St. Johns-wort, Pimpernel of each three Ounces, *Confectio Allhermes* a Drachm and a half, *Lapis Lazuli* prepar'd two Scruples, Syrup of St. Johns-wort one Drachm. Mix them. The Dose is two or three Spoonfuls. Or, you may often give the Tincture of *Lapis Lazuli*, or the Essence of Pimpernel or St. Johns-wort. Also *Mynsicht's* Compound Tincture of St. Johns-wort. Or, Take of *Nitrum Antimmiatum* one Scruple, *Butyrum Perlarum* half a Scruple, Magistery of Amber three Grains, of *Luna* five Grains. Mix them, and make a Powder for one Dose. Or, Take of the

Spirit of Vitriol sulphurated half a Drachm, Syrup of Violets two Drachms, Water of St. Johns-wort one Ounce. Mix them for two Doses.

Weathers Brains fry'd with Cinnamon, Nutmeg, Cloves, and given for three Mornings, is reckon'd as a great Secret by a certain Anonymous Author.

The Secundine of a Woman of her first Child Pulveriz'd, and a Drachm of it given privately in Wine, is sometimes available. A Friend told me for a great Secret, that he had cured many Mad-men with the Juice of young Swallows, given to the Quantity of an Ounce twice or thrice in the Water of Pimpernel.

Amongst external Applications, we commend divers Epithems and Unguents prepared of anodyne and cooling Opiates, and applied to the Head shav'd, and Temples. Many of our Country-men destil Bay-Berries in *Balneo Marie* with Camphore and Whites of Eggs, and bath the Head therewith.

A live black Hen (but we say Swallows) cut in two in the Middle, and laid reeking hot to the Head when shaven has been found successful.

We are not against the Use of these Things by the by, Frictions, Ligatures, Scarifications; and also Cauteries, both Actual, as Burning with Indian *Moxa*, or our German *Moxa* found out by us; and also Potential, but they must be us'd with Caution.

Whoever goes about to draw a more exact *Epitome* from the preceding Medicaments, need not fear to lose his Labour.

CHAP. V.

Of a Lethargy and Carus.

§. 1. *Definition.*

Lethargus or Lethargia, the Lethargy (by some call'd *Veter-nus*, by some *Torpor*, by some *Sopor gravis* or a heavy Sleep, by some *Coma*, by some *Cataphora*, and by many *Subeth*) is commonly defin'd: A Cessation of the principal Faculties, but especially of the Memory, with an unavoidable Necessity of Sleeping, (as *Celsus* expresses it) and arising from a watry Humor, with a continu'd lingering Fever. A Lethargy and *Carus* are near akin, and are almost cur'd the same way, and therefore we thought fit to treat of them both together. **our own** Definition is this; An indispensable Necessity of Sleeping, with a perfect Oblivion, sometimes with a Fever and *Delirium*, sometimes without them, and arising from the Animal Spirits sticking in a glutinous viscid Matter, and forgetting their Offices.

§. 2. *Difference.*

A *Carus* differs from a Lethargy thus; A Lethargy is attended with a Fever, and the Lethargick opens his Eyes at loud bawling, and makes some impertinent Answer when spoke to: But those

who share in a *Carus* have no Fever, never open their Eyes, speak, or stir, but lie as if they were dead, only draw their Breath. A *Carus* is not unlike an Apoplexy, yet it differs from it in Respiration: for in a *Carus* there is a free Respiration, but in an Apoplexy scarce any. In a *Carus* they neither are sensible, nor stir, nor understand, nor think, nor desire, and only differ from dead men, in that they draw their Breath:

§. 3. *Part affected.*

The *Part affected* according to the *Ancients*, is the Substance of the Brain, and most of all, its hinder-Part, but not its Ventricles: Which they endeavour to prove from the Functions of the Brain being hurt; because in this Disease chiefly the Memory and the Reason suffer, which are the particular Offices of the *Cerebellum*. Some of the *Ancients* take the Heart, though without Reason, for the Part affected.

Willis in his *Anima Brutorum*, reckons for the immediate Subject of Sleep and Waking, the greater part of the Sensitive Soul radicated in the Brain, which, according to him, is nothing else but the Animal

Faculty and Spirits, and he confidently asserts, That the Soul (like as in Sleep,) does as it were furl its Sails, and hide its Head in its own Bosom.

Sylbius does not take the Brain in this Distemper to be the Part affected, but the Vessels that carry the Blood. For says he, *Prax. l. 2. c. 29. §. 19.* Tho the Head of the Lethargy be heavy, yet that may proceed from the Humors that are carried with the Blood to the Brain; so that we need not have Recourse to a peculiar & primary Fault of that Part.

The **Cartesi**ans blame the Pores of the Brain, which if obstructed, the Animal Spirits cannot pass through them to execute their Offices; from whence, say they, proceed such an Inclination to Sleep.

Helmont, *lib. Jus Duumviratus*, thinks this Distemper to be originally from the Stomach and Spleen.

We take the Brain and *Cerebellum*, and their Pores or Passages through which the Animal Spirits move to the Execution of their Duties, either in the Brain it self, or the other outward Senses, to be the primary Subject. But as to the Specific and Individual Part, We think the Medullar Part of the Brain is primarily concern'd, because this Part is rather the Rendezvous of the Spirits, than the Part where they are bred; nor do we exclude the *Cortex* of the Brain, which commits most of the Spirits, when they are generated, to the Nerves. For if the *Cortex* be the Seat of the Memory, and of Sleep, as *Willis* says it is, it cannot but have a share in this Calamity.

§. 4. *Diagnostic.*

There is in these Diseases an insuperable Inclination to Sleep, with a Forgetfulness of every Thing; yea sometimes the distemper'd Person cannot remember his own Name. Sometimes there is a *Delirium*, sometimes none, and sometimes a continual lingering Fever. When it is continual, he ascribes it to the Choler mixt with the whole Mass of Blood; when lingering, to the less active Choler, (seeing this is but Flegm dispers'd) wherefore the Parts do not burn so much. And this continual Fever may be remitting, but not intermitting, because the Blood is not equally tainted.

The Patient is forgetful in this Disease, because the Brain presently subsiding, disturbs that orderly Motion of the Spirits which is required for the Memory; and hinders them from passing vigorously, and after their usual way, into the track formerly made in the Brain, and from being reflected to the *Glandula Pinealis*.

The Sick Persons make very slow Replies, altho they be press'd to it, and for the most part lie with their Eyes clos'd, but now and then Lethargicks open them, if you call aloud upon them, which being shut again, they forth-with return to their former Sleep, and sometimes to such a Degree, that though you pull them by the Hair it will not hurt them, as being so far stupified, that the Operations of all their Senses are suspended. There is sometimes so great an Oblivion and Eclipse of the Memory, that, like Mad-men, they forget every thing; yea, though some call for a Chamber-

ber-Pot with a design to make Water, yet they forget what they were about to do, of which I my self can give two Instances; which makes it clear beyond all Dispute, That the Memory and Reason are in this Case quite abolished. They also, that are took with this Disease, often yawn, and have a lingering Fever, with a slow trembling, and languishing Pulse. The Reason why the Pulse is sometimes hard, sometimes soft, is, because the Skin or Flesh and Arteries under the Skin, are softer or harder, which imposes upon him that goes to feel the Pulse. Some have their Stools thin, others again are bound and have their Stools hard. Their Urin is commonly like to that of Cattle, which is always better than if it were clear. In some we have observed a swearing, accompanied with a trembling.

Their Respiration is sometimes strong, sometimes weak, sometimes slow, and sometimes attended with a rattling. That *Delirium* which now and then goes along with this Distemper, is not a true *Delirium*; for we all of us dote as much, and make as impertinent Replies when we are drowzy, because the Motion made upon the Nerves, by the Words spoken, is scarce carried to the Brain, or if it be, it is but very obscurely and corruptly; wherefore it is, that in the Soul are started confus'd Thoughts and Perceptions, which the making answer to, speaks absurdly: therefore it cannot be said that he that sleeps is delirious, because we have known so many Persons in Health to answer impertinently when betwixt Sleeping and Waking. The Case is the same in this Disease, so that we need not ascribe the Cause to Putrefaction in

the Brain. There is a Drowziness and Heaviness throughout the whole Body, especially the Head, and though they be turn'd upon their Backs or Sides, yet they will turn again to their former Postures. In a *Carus*, altho the Patient be awaked, yet he neither is sensible, nor gives any Answer when spoken to, which is a thing proper to a *Carus*; yea, if you prick him, altho he show some small sign of Sensation by Contraction of the Part, you cannot for all that rouse him up. For the most part also all the outward Senses become in the End stupified, whereupon neither do the inward Senses perform any of their Duties, and are just as if they were dead, excepting that Respiration remains unconcern'd. So that a *Carus* is a Kind of a middle Distemper betwixt an Apoplexy and the other sleepy Diseases, and the next Degree to an Apoplexy.

§. 5. Cause.

THE Ancient *Galenists*, with their Followers at this day, reckon the immediate Cause of this Distemper to be from the cold and moist Intemperature of the Brain, that corrupts there; and from a pituitous Tumor or cold Apostem, arising from the putrifying of cold Phlegm, and by that means disturbing the Reason and Memory, and causing a masterless Drowziness. From the Putrefaction of Phlegm they deduce the Fever; so that they say the Cause of these two Distempers, is, a thick and clammy Humor lying upon the Substance of the Brain, by the abounding of which they solve all the *Phænomena* of this Distemper.

§. 6.

THE Paracelsists deny that it is caus'd by the Coldness and putrifying of this Phlegm, but say, That it is from the Spirits or Vapors of Sulphur, or a sort of Narcotic Salt, which by its viscosities ties up the Spirits, or by its vitriolick acidity coagulates, or by its Narcotic Quality stupifies them, so that they cannot come at the Organs of the Senses to do their several Offices. Which is confirmed by this, That there must needs be found some fuliginous and stinking Sulphur, as in Poppy, *Opium*, deadly Night-shade, Henbane, Mandrake, and such like, which contain in them stinking Narcotic Oils, which easily rake Fire, & so abound with a soporiferous Quality, which is the Property of inflammable Sulphur. Therefore though *Opium* and *Opiates* by the *Galenists* are accounted cold in the fourth Degree; yet if the Temperaments and Qualities of things are known by their Taste and Effect, our *Opium* is not only bitter, but also sharp and bites the Palate; from whence the *Paracelsists*, no doubt, conclude, That these above-mentioned contain a Sulphur in them, to which the Cause of this Distemper is wholly to be ascribed. According to the Chymists therefore these two Diseases, *Carus* and Lethargy, are caused by the Resolution of Narcotic Sulphur.

Paracelsus, *Lib. 2. de Vita longa Cap. 2.* makes a Lethargy a Species of *Gutta*, which *Gutta* he calls the Separation of the nutritious Juice from the Part, which is done by the Sublimation of the Cachochymic Mercury. In another Place he makes the Salt of

Vitriol to be the Cause of this Distemper.

§. 7.

HELMONT, and his Follower *Tachenius*, falling, by what means I know not, into the *Paracelsian* Road, think that this Malady has its rise from a vaporous Sulphur.

§. 8.

WILLIS says, that this Disease is generated from a watery corrupt Matter overspreading the outward Part of the Brain; and partly from some Narcotick Particles, pre-existent in the Blood, and convey'd thither; and therefore adds, that by this means the Circulation of the Blood is hindered or altered. He also thinks that the *Serum*, and other ill Humors are sometimes sent in too great Quantity to the Brain, and that it easily receives them, by Reason of its Pores being over-widened, by the too much Coldness and Moistness of its outward Part; as he proves by the Example of Children, and Old Men, such as are Cachochymic, Hydropic, Scorbutic, &c.

§. 9.

SPLIVINS, as was said before, thinks the Cause to be a too great Quantity of gross Phlegm, and a Narcotic Choler closely mixt with the whole Mass of Blood. The lingering Fever he derives from that naughty Bile vitiously fermenting with the Phlegm which it meets in the *Duodenum*.

§. 10.

Cartes and his Followers, who assert natural Sleep to be the subsiding or closing of the Pores of the Brain, conclude that the immediate Cause of this Distemper is a preternatural Obstruction of those Pores by means of a gross Humor, and a Want of Spirits, which are drowned by an Inundation of filthy Matter, and thereby changed with the Figures of the Pores. And they also say, that viscid dewy Vapors, which easily turn to Water, and oppress both the Brain and Soul, do much contribute: when, on the contrary, sharp and dry Exhalations, because of the too great Agitation of their Particles, do not so readily turn to Water, as we see the most blustering Winds to dry the fastest, of which *Cartes* Discourses more at large de *Meteor. c. 3. p. 212.*

§. 11.

WE, as to our own Parts, suppose the Animal Spirits, surrounded with Clouds of Vapors, to stick in a viscid, and, for the most Part, acid Matter, so that they must needs desist from doing their Duties; especially if the Passages are stop't which they were wont to pervade; for from hence there will proceed a Cessation of the preternatural Undulation and Motion of the Animal Spirits into the Nerves, and their Irradiation into all the Members. But the more immediate Cause is to be sought for in the viscid Mass of Blood, and in the Spirits of the same Nature, viz. that are imbued with a certain extraneous Spirit,

or Gas, (as the Chymists call it.) For if any heterogeneous Thing whatever, in either of these, obstruct or overflow the Pores in the Cortex of the Brain; or also if any Narcotic Poison by its previous filth drives away the aforesaid Spirits, and altogether extinguishes them, then this Mischief is easily raised. The Motion and Circulation of the Humors are diminished in this Distemper, and in natural Sleep, because the Spirits not flowing so copiously into the Vessels, squeeze them not so much, nor consequently move and thrust forward so swiftly the Humors contained in them. Now these Humors by sticking there are thickened, and by long stagnating cause Obstructions, if they be not presently driven on by the Spirits. In the Evening we grow dull and drowsy for want of Animal Spirits, and upon this account many Diseases are worse towards Night, and from this greater or less Defect of Spirits, for the most part proceeds more or less sound Sleep. Therefore the Cause of this Distemper lies most commonly in the drowsy Disposition of the Animal Spirits, the Obstruction of the Pores of the Brain, and the viscosity of the Blood. For whilst this heterogeneous and clammy Mass of Blood forces its way into the Brain through the two *Carotides*, it leaves there a glutinous and slimy Matter, in which the Animal Spirits stick fast, and so the Pores of the Brain are obstructed.

Narcotic Medicines may easily produce this Disease, if they be given unseasonably, or in too great a Quantity, for they very much fix the Blood and Spirits. Narcotics are to be manag'd prudently when the

the Patient has long wanted Sleep, because then the Fermentations are very weak in the Heart, and when the Narcotic Quality gets into the Blood, it so disposes it, that it is less and less fermented. Wherefore when Strength is already decayed, it is so far further diminished by the use of Opiates, that life cannot be supported: And hence it is that sometimes, after a small Dose of Opiates in long Watchings, Death ensues.

This Distemper sometimes also has its Original from a Narcotic Vapor arising from Coals or Turfs; for these Vapors have some Arsenic in them, wherefore if they cause any one to faint, he must be exposed presently to the open Air, and hot Spirits put into his Mouth, such as *Aqua Theriacalis*, *aqua Vita*, *Antipyletica*, &c.

Drunkenness and Gluttony, as we have said before, may easily bring this Distemper. Corruption is an unequal and bad Mixture of the Parts of the Blood amongst themselves, whence comes a Fever: For every Fever is not an Accension of the Blood in the Heart, and an increased Fermentation, because in some Fevers the Pulse is the weakest.

Therefore when the Blood is thick, pituitous and badly mixt, it breeds gross and ill mixt Spirits, whose Parts consist of very irregular Particles; some of which are gross, others fine and pure. The purer sort, at first, pass into the Nerves, but afterwards being obstructed by those that are gross the subtiler can no longer enter, and hereupon the Nerves flag. And because pituitous Humors do every where obstruct the Arteries and their Pores, therefore there are not

Spirits enough generated to puff up the Brain, and keep it inflated. And hereupon all Motion and Sense is lost; for the Nerves not being swoln with Spirits, they become flaccid and subside; so that although they be twitched at their Ends yet they cannot transmit that Impression to the Brain: And hence arises this Distemper. From what has been said, all the *Phænomena* of this Disease may very well be explained and unfolded.

§. 12. Prognostick.

NOW that we have done with the Causes, we will proceed to the *Prognostick*. Of which *Celsus* thus speaks, "Seeing this is an Acute Distemper, it brings Death if there be not present Help. And the divine *Hippocrates*, 2 de *Morb. vulg.* defines the Time in these words; "Lethargicks die in seven Days, but if they escape so long, they will recover. This Disease is also dangerous if it come upon a Fever, or other Cephalic Diseases, or a continual Colick. Also old Men are in more danger than young, for their Spirits are not so vigorous as young Mens are, and also in those that are old the Pores of the Brain are more subject to Obstructions, which hinders the Spirits from enlightening the other Parts, and making them fit to do their Duties. For the Spirits are the Governors of the Body, but if there be not a sufficient Quantity, it must needs be that the Body mightily suffer. It is also an ill Sign if the Patient be over-whelmed with a very great Drowsiness, and if he breath slowly or rattle. But there is more Hope if the Distemper proceed from Gluttony, Drunkenness,

kennels, Smoak of Tabaco, use of Narcoticks, a light stroak on the Head, or by too much wetting the Body. In like manner it is less dangerous if Evacuations by Stool and Sweat, whether by Art or Nature, give ease; also if their Blisters run well, and if they sneeze often, and their Nose or Eyes drop with Water. If there be an Abscess behind the Ears it is lookt upon as a Degree to Health, and is commonly accounted a *Crisis*. A Suppuration often grows in the Breast when they begin to recover. A Trembling in this Distemper is one of the worst Signs, and also a cold Sweat about the Head and Forehead. If the Excrements by Stool be many and thin; it denotes a greater Defect of Animal Spirits, and consequently Danger. The Female Sex is most obnoxious to this Disease, because they most abound with Serous Particles. A Cure is very difficult in old Men, in that their Obstructions are not so easily opened, because of the Hardness of their Fibres.

S. 13. *Dietetic Cure.*

THESE Things being explain'd, we must now come to the *Dietetic* Cure. Let the *Air* be clear, hot and dry, which may be amended with burning Juniper-Wood, Rosemary, and Leaves of Bay-Tree. On the other Hand, a cloudy, rainy, moist and cold Air must be avoided; for such an one is an Enemy to the Animal Spirits, and thickens the Blood, and thereby deprives the Spirits of their Commerce.

Let the *Alit* be attenuating, and taken in due Proportion, but it is better to eat too little than too much. Broths of Capons, Hens

and Pullers stuff'd with Cephalic & other Herbs are very good. Pheasants also are wholsom; but all Meats whatever must be seasoned with Cinnamon and other Aromatic Herbs. Such Meats as are crude, windy, cold, and salt must be forbidden. As also Pulse and all Pot-herbs, no less than Milk-Meats, and other Things of the same Nature.

Their *Drink* must be small Wine, Pilsan, and small Beer. Tea and Coffee are very good. They must by all means forbear drinking Spring Water, or swilling of any strong Liquor.

Sleep must be kept off as much as may be, by pinching, pulling the Hair, and if need be, by pulling the Limbs, or by putting under their Noses Fumes of Sulphur, Castor, Galbanum, Sagapenum; also Spirit of *Sal Armoniac*. must be put to the Nose. The Ancients us'd to irritate the Fibres of the Nostrils with the sharpest Vinegar.

Instead of Exercise let them be soundly rubb'd all over with rough Cloths, especially their Feet and Hands; and they must be often mov'd from one Side of the Bed to the other.

As to what concerns the *Excreta* and *Retenta*, All possible Care must be took that the Belly be loosned with Clysters, Suppositories, and other such like Catharticks.

Amongst the *Passions of the Mind*, Joy and Mirth are to be endeavoured. To this purpose, Friends are to be call'd in, who by keeping a bustle with the Sick Person, may interrupt his Sleep. Melancholy, Sadness, Cares, Fear, &c. are to be avoided.

§. 14. *Pharmaceutic Cure.*

THE Ancients, who followed *Galen's* Methods, make use, in this Distemper, of these Preparatives; A Decoction of Sage, Hyssop, Time, Marjoram, Betony, Pennyroyal, Fennel, Smallage, Maiden-Hair, Bawm, Roots of Butchers-Broom and Grass; to which Decoction they add Honey of Roses, or Oxymel. When the Distemper has took deep Root, they then encounter it rather with Purgatives, which are these; *Hiera Diacolocynthidos*, *Diaphanicon*, *El. Indum Maj.* Trochiscs of Agarick. They also sometimes advise to vomit with a Decoction of Rhadish, Orrach, and Vinegar of Squills, &c. After that they are wont to prescribe Clysters of Mallows, Chamomil, Sage, Marjoram, *Origanum*, Centory the less, Rosemary, Betony, Fennel-Seed, *Calocynthus*, Agarick; in the Colatures of which they either dissolve *Hier. Logadii* or *Electuarium Diaphanicon*, Oil of Chamomil, Rue, Honey of Roses, &c.

Amongst these they are wont to use Suppositories of Honey with *Species Hiera picra*, and common Salt, or *Sal Gem.*

Those Things are by them call'd *Revellers*, which can avert the Humors, and rouse the sick Person in these Distempers, as Venesection, Clysters, Suppositories, Rubbing of the Palate and Tongue with Honey and Vinegar, in which is mixt Pellitory of Spain and Mustard-Seed. The extreme Parts of the Body are to be rubb'd until they are red and sore, which also, they say, must be pinch'd, stung with Nettles, and prickt, and the distemper'd Person must be violently

pull'd by the Hair of the Head to stir him up and avert the Matter. They command the Application of Cupping-Glasses to the back part of the Head, as also to the first or second *Vertebra*, and likewise to the Buttocks and Thighs. They advise Errhines of Vinegar, in which are boild *Origanum*, Time, Pennyroyal, &c. and to snuff up the Nose the Vapors that arise from thence. They endeavor to raise the sick Person with a Sul-fumigation of *Galbanum*, Castor, *Assa fetida*, *Eupharbium*, Sulphur, Pitch, Harts-Horn, Mans Hair, and other such Things.

The Ancients think that Lethargicks may be raised by a Crains Gall, heated in a leaden Vessel, and the fore-Part of the Head anointed therewith; and they also vainly imagine that the Eyes, Heart and Gall of a Nightingale, as also the Head of a Bat (these being watchful Creatures) laid under the Pillow, will keep the Patient awake.

They use Gargarisms and Apophlegmatisms: Also Irrigate and Foment the Head shaven, and especially the fore-Part, with a Decoction of Rue, *Origanum*, and other Aromaticks. Neither do they neglect Sinapisms of dry Figs, Mustard-Seed, Pigeons-Dung, *Cantharides*, &c. Last of all, they are wont to amend the remaining Intemperature, and to corroborate the Head with their Strengtheners, such as Conserve of Betony, Marjoram, *Diamoscu Dulce*, *Diambra*, *Mithridate*, Treacle, *Confect. Anacardina*: Outwardly, with Oil of Castor, *Ol. Nardinum*, *Castinum*, &c. Also they would not have Perfumes of Castor, Pennyroyal, Time, &c. to be neglected. They think also that Oyntment of Castor is wonderful good for the Head

Head in this Distemper. And they lay so the Head shaven, with good Success, a Bag of Millet-Seed and Salt roasted.

§. 15.

WE will now, having done with the *Galenists*, proceed, according to the Order of our Method, to the *Paracelsists*, and, if we may be Choosers, we will follow those who commend in these Distempers the Philosophick Spirit of Vitriol, and the Volatil. For *Paracelsus* himself *de Alchymia* says, that a Lethargy being a Mineral Distemper, is not to be cured by Decoctions out of Apothecaries Shops, but by Minerals. A certain Man, he says, after a Fever, fell into such a deep Sleep, that he was not sensible when prickt, nor could open his Eyes, or speak one Word, but lay just as if he were dead, being in a Lethargy, whom he cured with Oil of Salt, as he likewise did another with Oil of Vitriol. Oil, Milk, and Quintessence of Sulphur, are in the same Esteem. In another Place he commends in these Distempers a twofold Arcanum, *Vitriolatum* and *Mercurius Solis*, which he would not call *Aurum Potabile*, (nor liking, perhaps, the vulgar Appellation) but gives it the new Name of *Horizon*. Amongst Minerals, he affirms, that the Essence of Antimony has a specifick Virtue in quite rooting out the Cause of this Disease, and mightily strengthening Nature, and this he also us'd in many other of the most grievous Diseases of the Head. The Madness and Envy of Chymical Knaves hinders me from divulging the genuine and truly Philosophical Preparation of this and other Arcana. Out-

wardly this Author commends Balsam of Alces, Myrobalans Chebul. *Bellyr. Ind. &c.*

§. 16.

Helmont magnifies the Roots of Carline Thistle, and also the Juice and Extract, all which, he says, do by sympathy drive away Sleep, and most of all, that which is preternatural. He also says, that what he advises in the other soporiferous Distempers are proper in this. But to repeat all these Things would be impossible.

§. 17.

NOW comes Willis upon the Stage, who takes this Method in the Cure. After the Injection of a sharp Clyster he advises Venesection, and rather in the Jugular Vein than the Arm, because the stagnating Blood is by this means brought to a more equal Circulation. He commands large Vesicatories to be applied to the Neck and Thighs, and the Temples and Face to be anointed with Oil of Amber or Cephalic Balsams. He orders Cataplasms of Rue or Crowfoot with black Sope and Sea-Salt beat together into a Pulvis to be laid to the Soles of the Feet. Rough Frictions, according to him, are to be used to the outward Members. He highly commends Scarifications, Errhines, Sternutatories, and Apoplegmatisms. Inwardly he uses these Medicaments. If the Lethargy proceed from Surfeiting or Narcoticks, then he thinks that a Vomit of an Infusion of *Crocus Metal-lorum* is most convenient. After this he furnishes us with appropriate Cephalicks, as divers Volatils.

tils. Amongst outward Applications he is for having the volatil Salt of Urin, or Spirit of *Sal Armoniac*. often held to the Nose.

§. 18.

SPIRITUS thinks the Cure of this Distemper consists in altering and evacuating the redundant Phlegm (as was said above when we spoke of the Cause) and also in correcting the Choler that has a Narcotic Quality. To answer this Intent he commends the Roots of Flower-de-luce, *Acorus*, Galangal, *Calamus Aromaticus*; Leaves of Marjoram, Sage, Bay-Tree, Hyssop, Mother of Time, Wormwood, *Carduus Benedictus*, Mint, Flowers of Centory the less, Chamomil, Seeds of Bastard-Lovage, Anise, Caraway, *Nigella*, Berries of the Bay-Tree, of Juniper, Gum *Opoponax*, *Galbanum*, *Bdellium*, *Ammoniacum*; and he highly values almost all Aromaticks, in that they cut the gross Phlegm.

Amongst Evacuators he makes choice of Agarick, Turbith, full of Gum, *Colocynthis*, and any Preparations of Mercury. Furthermore he asserts, that the Bile, which is often endued with a Narcotick Quality and occasions a Fever, is corrected by Things that are aqueous, acid, &c. And in this Case he prefers Oil of Sulphur *per Cinnamon* before acid Spirits, and says, That next to it is Spirit of Nitre.

§. 19.

THE Followers of Cartes, who seek for the Cause of this Distemper either in the Scarcity of the Animal Spirits, or the Subsi-

dence and closing of the Pores of the Brain, occasion'd by a too great Inundation of Pituitous Humors, as was said above, do therefore attempt the Cure with volatil Aromaticks, which restore the Spirits, open the Pores by means of their Volatility, and do cut and dissolve the viscid Matter. They commend Castor and other penetrating Things of the same Nature, that is, such as consist of very volatil and subtle Parts, and therefore can more easily pass through the Pores, irritate the Spirits, and dissolve the Phlegm. And because this Distemper proceeds from a viscid Matter, they argue that such Things are to be used as consist of rigid and hard, but, notwithstanding, small and slender Particles, that they may easily insinuate themselves into the Pores, and may not be byalld by the striking against other Particles that they meet; such as are all spirituous Things, and volatil aromatic Salts; these Woods, *Guajacum*, Sassafras, Roots of Masterwort, Elecampane, *Calamus Aromaticus*; Leaves of Betony, Bawm, *Origanum*, Sage, Marjoram, Time, Rosemary, &c. For all these Things consist of rigid and hard Parts, but yet thin and slender, from whence they have the Power of penetrating, cutting, altering and dissolving gross Humors.

They also magnify Sternutatories or Sneezers, insisting upon the foresaid Method, because they have such stiff Particles and partake of a certain Acrimony; for no sooner do they touch the little Membranes, but they twitch them, and thereby irritate the Spirits to such an Excretory and Spasmodick Motion. We say nothing here of Preparers and Purgers, and external Medicaments,

ments, seeing that an understanding and ingenious Reader, may be furnished from our own Method of Cure, which now follows.

§. 20.

IN giving the Causes of this Malady we blam'd a vitious Acid obstructing the Pores of the Brain, and therefore Our principal Intent in the Cure must be, That the Animal Spirits, sticking in a viscid and acid Matter, may be set at Liberty, and the Mass of Blood be freed from its Viscidity and Clamminess, which not without Reason we commend as the greatest Secret of Successful Practice in this Distemper. Therefore being furnished with these Indications, we pass to the Cure. We commend volatil Salts in General, as well of Vegetables, out of Cephalics, and their volatil Spirits, as of Animals, out of Man's Blood, *Marthiolus's* Quintessence, volatil Salts of Amber, Harts-Horn, Secundines. That noble Remedy the *Liquor Cornu Cervi Stuccinum*, the nervine Liquor of *Schefer*, Castor and its Tincture both outwardly and inwardly are available. Nor are volatil oily Salts, prepar'd of the Oils of Aromatics to be neglected, but especially if they be mixt with spirituous Things, as volatil Salt of Saffron, they do admirably draw the Animal Spirits out of that viscous acid Matter in which they are set fast, and do correct and amend the acid and viscous Mass of Blood. Thus much of the General, now we proceed to the more special Remedies. As soon as we come at the sick Person, without delay we order Frictions, Pinchings or Prickings. For the

Patient is rouz'd by Pricking, because whilst that you prick and pinch the Extremities of the Nerves, the Pores in the Brain and Nerves are opened, and so some become greater some less; by the Variation of which, way is made for the Spirits to flow into the Nerves. Lethargicks are sometimes rais'd by Pricking, because some few Spirits still remain in the Nerves, so that they can convey the Motion, that is made by a strong Pinching, to the Brain. Neither are the Nerves ever wholly without Spirits, for always, so long as a Man is alive, there are some still remaining in the Body. We also use to lay Vesicatories to the Nape of the Neck, and sometimes behind the Ears; and to the Tongue, Nostrils and Temples we apply Spirits of Castor, Amber and Urin. *Ex. gr.*

Take of Spirit of Wine camphorated, *Sal Armoniac* aromatized of each a Drachm, Vinegar of Amber and Rue of each half an Ounce. Mix them. By the Use of this you will find much Benefit.

Afterward we take Care to give sharp Suppositories or Clysters (of which below). But if the Distemper proceed from Gluttony, or the unseasonable Use of some Narcotic Medicament, or if there be any Fear of the Patient's having took Poison, then Vomitories are an immediate Help, as *Hippocrates* and Experience testify. And here also spirituous and sulphureous Things will contribute more to the Cure than saline, in as much as spirituous Things have regard to the noxious Impressions made by the Narcotic Spirits,

Spirits, by putting them into Motion, and agitating them anew, as Acids do hinder their Impression, which *Etmullerus* observes as well as we. But if the peccant Matter flow in great Quantity to the Breast (as is usual) and causes a Cough and Difficulty of Breathing, we may use, as a present Remedy, four or five Drops of Balsam of Sulphur with Turpentine dissolv'd in Syrup of Jujubes, which the noble *Horslius* gave with extraordinary Success. And we endeavor to awake the drowzy Spirits with Sternutatories, and also with *Wiedelii's Euporiston*, or the following Remedy.

Take of Water of Marjoram, Lily of the Valleys, Flowers of the Line-Tree of each half an Ounce, white Vitriol two Scruples. Mix them for a Draught.

Internally we must for some Time persist in the Use of Apopleptic, spirituous and odoriferous Waters, as the Spirits of Lily of the Valleys, black Cherries impregnated with volatil Salt. Our own Antilethargic Specific is this which follows.

Take of Powder of Castor one Drachm, Mustard Seed, Garden-Cress-Seed of each a Drachm and a half, Ashes of Swallows, prepar'd Amber of each a Drachm, Ambergris half a Drachm, Leaves of Gold No. three. Make a Specific Powder. The Dose is from a Scruple to a Drachm, to be given in some spirituous Apopleptic Water.

Or, It may be given in a liquid Form, as follows.

Take of the *Liquor Cornu Cervi Succinatus* one Scruple, Tincture of Castor, of Amber of each half a Scruple, Water of the Flowers of the Line-Tree two Ounces and a half, of Swallows with Castor one Ounce, Syrup of Peony three Drachms. Mix them, and give it by a Spoonful at a Time. Or, Take of Spirit of *Sal Armoniac* with Amber, of Secundines, of an Elks Hoof of each a Scruple, Water of Bawm, Lavender of each an Ounce and an half, of Swallows with Castor, Syrup of Cinnamon of each an Ounce. Mix them. Or, Take of Oxy-mel of Squills two Drachms, Spirit of *Sal Armoniac* half a Scruple, Syrup of *Carduus Benedictus* an Ounce. Mix them. Or, Take of *Species diaphana Mynsichti* three Drachms, Magistery of Castor two Scruples, Chymical Oil of Rue six Drops. Mix them, and divide it into six equal Parts, which may be took in the following Mixture. Take of Water of Rue three Ounces, Cephalic Water one Ounce, Oxy-mel of Squills an Ounce and an half. Mix them.

These Medicines will be very salutiferous, which if you joyn with Purgers, you answer several Intents. *Ex. gr.*

Take of Resin of Jalap twelve Grains, Tincture of Castor, Amber of each eight Grains. Which you may either make into Pills, or with Conserve of Rosemary-Flowers or Marjoram make a Bolus. Or, Take of *Pil. Alcophang.* half a Drachm, Resin of Jalap, Agarick of each three Grains, Magistery of Amber four Grains, Salt of Amber three Grains, Oil of

of Marjoram two Drops. Mix them, and make fifteen Pills. Or, Take of Castor two Scruples, Scammony sulphurated one Scruple. Divide it into two equal Parts, and give it in Oxy-mel of Squils.

Besides what we have named above in the Dietetic Cure, the ordinary Drink must be a Decoction of Tea, or the common Woods, as *Guajacum*, *Sassafras*, with aromatic Herbs, as Leaves of Marjoram, Betony, Rosemary, Flowers of the Line-Tree, Roots of Peony, &c. For a Specifick we commend a Decoction of Swallows with the Flowers and Wood of the Line-Tree. We might add much more of this Nature, if we would humor a wonderfully wanton & carping Age, which however we designedly omit. But as *Virgil* gathered Gold out of *Ennius's* Dung-hill, so may every Physician, that is any thing skilful, make a more choice Collection out of what has gone before.

In the last Place let Cupping-Glasses be applied both with and without a Flame; also Vescatories, Ligatures, &c. If all these Things do no good, recourse must be had to that often mentioned Infusion of divers volatil Liquors into the sick Person's Veins. Which, notwithstanding; I think must be omitted, as also Venesection, to avoid the Calumnies of the Vulgar, because when the Patient dies they lay the blame upon them.

Clysters in this Case are many Times convenient, which ought to be so sharp, as by irritating the Intestines to rouse up the distemper'd Person, and powerfully cut the gross Humors. Therefore they must be made of Cephalic Herbs, some sharp

Purgers being added, or one or two Drachms of Seeds of *Daucus* of *Creeta* may be boiled in Whey, and half a Drachm of the Pulp of *Coloquintida* may be tied in a Rag, adding two Drachms of *Sal Gem*, and Salt of *Carduus Benedictus*. Or let this Clyster be prepared.

Take of Wormwood, Centory the less, Leaves of Rue, Betony of each a Handful, Root of Pellitory of Spain three Drachms, Pulp of *Coloquintida* tied in a Rag a Drachm and a half. Boil them in a sufficient Quantity of common Water, to eight Ounces of the Colature add of Electuary of *Hiera* with Agaric an Ounce, Oxes Gall thickned a Drachm, and the Yelk of one Egg. Make a Clyster.

Great-Dock Root, Barks of *Tamaris*-Tree, Shavings of *Guajacum* and Bryony-Root, to the Quantity of two Drachms, are also good in Clysters.

Stinking Things are to be held to the Nose, such as Spirit of *Sal Armoniac*, Castor, or this which follows:

Take of Oil of Tartar per Deliquium two Drachms, volatil *Sal Armoniac* half a Drachm. Mix them, and let them forthwith be put to the Nose.

Boil some of the sharpest Vinegar with Castor and Rue, and *Nigella*-Seed, pour it upon a red hot Iron, and let the Vapor pass into the Nostrils of the sick Person.

Sternutatories in this Case are extremely beneficial, and most of all this which follows,

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Take

Take of the Powder of *Virginia Tobacco*, *Marjoram*, *Lily of the Valley* of each a Scruple, *Castor* half a Scruple, *Volatil Salt* of *Urin*, Powder of white *Hellebor* of each four Grains. Mix them and make a Powder.

Let a Cataplasim of *Radish*, *Vinegar*, *Salt* and *Leaven* be applied to the Soles of the Feet.

For an *Oxyrrhodinum* we commend this which follows.

Take of *Water* of *Chamomil* an Ounce and an half, *Treacle Water* in which *Castor* is extracted an Ounce, *Ashes* of *Man's Hair* as much as you will. Mix them.

Those *Ashes* must be used because they contain in them a *volatil Salt*.

But Physicians do very ill to mix *Vinegar* with *Oxyrrhodina*; because it does too much bind the Pores.

Ligatures to the extreme Parts are often to be untied and tied again, because that changing very much affects the Soul.

A *Sponge* held to the Nose with *Juice* of *Smallage*, *Vinegar* of *Rue*, and Powder of *Castor* will mightily avail.

Take of *Smallage* three Handfuls, *Flowers* of *Nigella* and *Rue* of each a Drachm, *Castor* a Drachm and a half. Make a Bag according to Art. Or, Take of *Vinegar* of *Rue* two Ounces, *Juice* of *Rue* newly drawn half an Ounce, *Essence* of *Castor* two Drachms. Mix them.

CHAP.

CHAP. VI.

Of a Waking Coma.

§. 1.

A Waking Coma (which some call *Pervigilium*) is a morbid Somnolence, and an extreme propensity to sleep, which makes a man shut his eyes, but though he settle himself to sleep, yet he cannot take the least nap. Patients in this Disease are delirious, and act strange Absurdities. At first they find a dulness in their Heads, with a stupidity of all their Senses.

§. 2.

IT differs from a sleepy Coma, because in that there is actual sleep; but in a waking one sleep is hindered, and the Patients dote. But we shall say more of this, when we come to the Causes.

§. 3. Part affected.

THE Ancients commonly take the Brain for the place affected, some make it the *Cerebellum*, others, as the *Helmontians*, make it the Stomach, some the globous part of the Brain, some the cortical part, and others the *Glandula Pinealis*. We reckon the part affected to be the Pores of the Brain, and other

Bodies containing the animal Spirits, through which these Spirits, free from any taint otherwise, being put upon their duty, do rove, and like a daring and disobedient Souldier, run through all things and influence them.

§. 4. Diagnostick.

A Waking Coma is so well known, that we need no Signs, but what were given in the Definition before. However, if the Patient should dissemble, some conjectures may be made from the redness and heaviness of the Eyes, and likewise from want of motion, stiffness and driness in the Eye-lids. They are not themselves. *Helmont*, in the Dedication of his Book, mentions a couple, who were sick of this Disease, a Spaniard and a German. He observed that the German sat or laid in that very posture wherein they placed him, as if he had been a Statue. He was not able to give an Answer to what was asked him, nor did he understand what his Wife or any of his Children said to him, except it were in his own German Tongue; whereas at home he constantly used to speak Italian and French. Nay, after he was cured of this waking

G 2

Coma,

Coma, he could scarce be perswaded to believe it.

The Patients sometimes shut their Eyes, but cannot go to sleep, they dote and look down, they are perpetually prating absurd stuff, tossing their Arms and Legs to and fro, they look stern on those that wake them, they are vertiginous in their sickness, enclining to vomit, and most of them are lean. This Disease rarely comes of it self, but for the most part accompanies or follows a Phrenzy, Madness, or some other Cephalic Disease. Now for the Cause.

§. 5. Cause.

THE Galenists (who are for their All-fours in Complexions, Humors, and first Qualities, which *Hippocrates*, *Helmont*, and others have strongly opposed, as a thing destructive to Physick and Natural Philosophy) derive the Cause of this Disease from a mixture of Bile with Phlegm. For if Bile (according to their way of speaking) do more abound, they hold that a Waking Coma is bred; but if Phlegm exceed, then a sleepy Coma. And there are some of this Sect to be met withal, who endeavour to evince by Reason, that this Disease arises from bilious and phlegmatick Vapors, and they prove it by *Fernelius* his authority, who says, as if he were the Infallible, that Waking is caused, when a hot and sharp vapor attenuates and disperses the Spirits above measure: But these are like *Penelope's* Suiters in *Homer*, who instead of her courted her Maids; we will therefore see what *Paracelsus* says, though he is too much of the like stamp.

§. 6.

THE Paracelsists do in this Disease blame sulphureous sharp Exhalations, which cause a Burning: For after their way of arguing, these Vapors are of a different nature and property, as the nature of the matter whence they arise, do differ. And these Vapors are able to cause Watching, unquiet Sleep and Doting.

§. 7.

THE most sagacious *Helmont* will have the Stomach to influence the whole Body by Spirits. and he places the administration of all vital offices in the *Hypochondria*, i. e. in the Spleen and Stomach. Which two with him make up a *Diuvirate*, and command the other Parts, from whose unquiet and disturbed Government he thinks Watching proceeds.

§. 8.

LET us now see what *Willis* says. He makes the Cause to be a two great agitation and expansion of the animal Spirits: Which animal Spirits are in his opinion like Sentinels on their Duty, free from all impediments, but disturbed in their rest, and excited by external, mediate Causes; for instance, by some sharp Humor, by a Medicine, by Worms, &c. So the Spirits are put in action and upon continual duty by more remote Causes, by a blow, and Convulsion or Pain caused thereby, whereupon it cannot otherwise be, but that want of Sleep must ensue. Now in preternatural waking the animal

animal Spirits being too fierce and elastic, can scarce contain themselves within their place; wherefore being too much expanded, they keep the Brain and Nerves tense, and when at any time they raise a tumult in the Brain, they likewise raise various *Deliria*, and (which confirms the matter) sometimes the fierce and eager Spirits, when they are recalled, do fall impetuously on the nervous kind, whereupon ensue palpirations of the Heart, twitchings and Convulsions. And we may constantly observe, That they who are afraid to sleep, as soon as ever they take a Nap, presently they start at a thousand *Phantasms*, and are forced to keep waking. For the animal Spirits, which ought to be calm, clear and lucid in their natural state, are in this case usually eager and fierce, like the steams that arise from *Aque stygie*. He holds that a sower, corrupt, salt and sharp Blood does remotely contribute much. He also maintains, that there is a sort of *Coma* which consists in a continual and excessive opening of the Cortical part and Pores of the Brain, caused by the foresaid preternatural humors.

§. 9.

Sylbius also is taken up with the same Sentiments, in a manner; and derives the next immediate Cause of this Disease from a too great agitation of the Animal Spirits. For he does not at all question, but that the animal Spirits are disturbed; and he the rather thinks he is in the right, because all things that hinder Sleep, are usually of such a nature, that they disturb the Animal Spirits; such

as are grievous pains, troubles and perplexity of mind, volatill sharp Salts, which render the bile or *serum* very sharp.

§. 10.

THE Cartesians place the next immediate cause of Want of Sleep in an excessive dilatation of the Pores of the Brain, caused by the firing and excessive motion of the Animal Spirits. The mediate Causes are all such things as attenuate or heat the Blood too much, and that by moving it too much encrease the Animal Spirits; and things that open the passages of the *Plexus Choroïdes* and carotid Arteries, that dilate the Pores of the Brain, and make way for the ingress and egress of the Spirits; as also things that alter the Body by their excessive agitation and concussion, such as all sharp, aculeate, poisonous and purgative things, &c. all which things may here act their parts remotely. They maintain also, that this Disease is produced by paucity and acrimony of Animal Spirits; For paucity of Spirits hinders the Brain and Nerves from being totally puffed up and elevated; wherefore as it subsides, and so hinders the influx of the Spirits into the Nerves and Muscles, it would produce Sleep, but that the sharpness of Spirits, arising from Bile, or some humor abounding with a sharp Salt, does by continual Vellication open the Pores of the Nerves; so that though the Spirits be but few, yet they have a continual influx into the Parts of the Body, and in this manner produce a state between Sleep and Waking.

§. II.

Our own Opinion, is, That the Brain, being kept in continual action, sends too many animal Spirits to the organical Parts, which Spirits tarry longer than they ought in the external Parts, out of their proper place, and so when they are become too sharp and subtil, do not easily return to their former quiet state.

The Antecedent Causes are either a thin and sulphureous Blood, or too much diluted with sharp Bile, and excessively effervescent: all which things may produce fiery animal Spirits. For we think that the most part of the Bile is by its volatil Salt converted into animal Spirits, and as we have proved before, that Bile is the cause of Madness, so it may be the preternatural cause of want of Sleep; that is, where it exceeds, and is carried beyond its bounds. And that of the Philosopher, *Democritus*, confirms this, who answered the Physician *Hippocrates*, That Anger proceeds from the swiftness of Bile, which according to *Horace*, *Furor brevis est*; by the acrimony whereof the Animal Spirits are enflamed. And as in the former Chapter we observed, that some Mad-men in a fit of Anger, are so fierce and hot, that they regard not the greatest Cold, but are as strong as *Hercules*, and that cholerick Persons do not sleep so long as others. So likewise when abundance of Blood moves too impetuously, too many animal Spirits are bred: And the Acid and Saline being too sharp, there is observed a greater effervescence of Blood, and the Spirits arise in greater quantity. For the motion

is here more acute, great and frequent, by reason whereof not only the Spirits already bred are moved the quicker, but are sent in greater plenty from the Brain. And we see this in Madness, burning Fevers, and *Deliria*, where Salt and bilious humors are peccant in the Body by their acrimony, that all who are sick of those Diseases are forced to wake constantly. It is found also by daily experience, that if at Supper we eat aromatic or salt things, yea, or spirituous and sharp things, we usually lie that Night without Sleep, and by the same reason Bile may do the same thing. And they confirm this thing, who through watching, study, carefulness, and such things, cannot for some considerable time get any Sleep; because then the acrimony of the Bile is increased, whereby the animal Spirits are made too sharp.

All grievous sensation, vellication, erosion, and pain do remotely hinder Sleep, in as much as they affect and vellicate the Organs of the Senses, and the animal Spirits residing in them. Intent Thoughts, Cares and Grief disquiet the Animal Spirits, keep them too long on duty, and by agitation consume the kindly Part, and cause an acrimony of Humors. Also excessive Watching is caused by a Blood too spirituous, and too salt, and by any excess of Spirits.

§. 12. Prognostick.

AS for the Prognostick, *Hippocrates* says, In want of Sleep Convulsion and Doting are bad. Moreover in Want of Sleep a Cough is of bad Portent: for sometimes there is a translation of the sharp matter.

matter to the Lungs which breeds a Consumption. *Helmont* observed that want of Sleep with solicitous Meditation caused an *Asthma*. It must of necessity cause Weakness, a Consumption and drying of the Body, because the oily and fat Parts are fretted off by the acrimony of the Blood. If it continue long, it causes Madness, and in a weak subject Death, by extinction of the animal Spirits in the outer Parts, and a total one at length in the Brain. Sometimes it is attended by a Cachexy; for through defect of Spirits, the Blood is made both sharper and more tough and clammy, whereby both the fermentation in the Guts, and the vital effervescence in the Heart are diminished. It is hard to cure in Old Men, *Mecenas* may be an instance, who, as *Pliny l. 7. c. 51.* writes, had a perpetual Fever, and slept not an hour at a time for three years, if you will believe him. However Reason is on his side: for old Men abound with sharp, serous, salt, briny humors, whereby the animal Spirits are greatly enraged. Want of Sleep arising from Study, solicitous Meditations, Pain from any Cause whatever, Grief, Fasting, strong Purges, &c. is easily cured, when these things are removed.

S. 13. Dietetic Cure.

Let the way of living, which consists in the Six Non-naturals, be as follows;

Let the *Air* be cold and moist, and the contrary be avoided. For who of us all is of so hard and strong a Body, as not to find himself much refreshed or offended by external blasts in an open Air?

The *Meat* must be easie of concoction, cold and moist, such as Chervil, Lettuce, and Broths of divers sorts. The Meat must be boiled, not fried or roasted, all corrupt sharp food must be avoided as Poison, which often occasion this Disease: for we have it from the Observations of famous Men, that sharp Sawces and Dainties have caused continual Waking, as has been intimated before, all which things sharpen the Humors, and cause Effervescences.

Excess in Food must be avoided, and flatulent things: but all that are ill of this Disease, especially that abound with an acid, are best in health, if they take some Food: for such Patients cannot well endure fasting, as I observe in my self; for I cannot sleep with an empty Stomach, but usually wake all night.

Drink must be a Decoction of Barley with Liquorish, or Beer well wrought, with Cowslip-flowers boiled in it, or an Emulsion of Almonds and the four cold Seeds, with a little white Poppy Seed, all which things do greatly correct the acrimony of Bile and other Humors, and compose the Spirits. Rich Wines and spirit of Wine, spirituous Waters, and such things are often the Authors of this Disease, because they do not only increase bile and other sharp humors through all the Body, but they force its motion, and spoil its consistency, and kindle the animal Spirits. Therefore we exclude all such things.

Motion must be moderate, and Rest must rather be enjoyed.

Sleep must by all means be procured, either by pleasant discourse of Friends, or by harmonious

plous Musick, or by the murmuring of Waters, or by being carried, or by rocking in a Cradle, or by Medicines, of which we shall speak hereafter. On the contrary, all things must be avoided, which may cause watching.

The *Belly* must be loose, not costive, and all other Evacuations usually made by Urine, Sweat, *Menses*, or *Hæmorrhoids*, must have their course either by Nature or Art, which, if they be stop'd, cause many Distempers.

The *Passions of the Mind*, because by their various alterations they disturb the Spirits and Blood, must be kept within due bounds of Moderation: for all excess is an enemy to Nature.

But above all others, Anger must be avoided: for it encreases the acrimony of the Bile, which disturbs and puts the Animal Spirits in a fret. For you may observe that Angry men cannot rest in one place, they are in a heat and toss, and if they bite, their Teeth leave some venom behind them. For I once heard a Cause tried before Judges, about a Man, that in his Anger had given his Neighbour an incurable Wound with his Teeth. All care, trouble, and deep thoughtfulness, because they disturb the Spirits, must be reckoned among things Prohibited.

§. 14. *Pharmaceutic Cure.*

AS for the *Pharmaceutic Cure*, the old *Galenists* cure a waking Coma idiopathick; and a Phrenzy with the same Medicines. Therefore I shall refer the Reader to the third Chapter of the Phrenzy. But if it come by Sympathy, they make use of Revellers and

Repellents: for they order Bleeding in the Arm and Foot, they apply *Oxyrrhodina* to the Forehead, they give Clysters and apply Blisters and Leeches behind the Ears, to draw back the Vapors (after their manner of talking) from the Head. When sharp Vapors are carried from the Stomach, by reason of bad Digestion, to the Head, they use *Diarrion Pipercon*, and hot aromatic Powders; to help the Retentive Faculty and Concoction of the Stomach. But if any crude matter lie in the Stomach, then they give *Oxymel* of Squills and other things. In consumed hectic Bodies, they endeavour to cure watching by Emulsions of sweet Almonds and white Poppy seeds, with Broths of fat Flesh and Baths, wherein they act properly. They give red Wine for Drink. They anoint the Temples and Nostrils with Ointment of Roses and *Populeon*. They commend a Bath of fresh Water and other moistning things. We said before that they accuse the Stomach, namely, when divers sharp biting Vapors ascend from it, as it happens in malignant, and other burning Fevers; as well as in this Disease. Therefore to evacuate bile, and other sharp humors and vapors, they begin with Vomits and Purges; then they embrocate the Head, that they may alter the Brain, and repress the vapors. At last they fly to Anodynes and Narcoticks; and lest the vapors should ascend to the Head, they make Ligatures in the lower Parts.

§. 15.

THE Chymists; and among them the Paracelsists, who think (as I said before) that sulphureous and sharp Exhalations are the Cause of this Disease, commend divers Hypnoticks and Anodynes, both Internal and External, for the correcting of those Exhalations.

§. 16.

Helmont, after his usual manner, having inculcated several things about the tribe of Alkali's, of the power of the *Duumvirate*, of the Gall, and innumerable things beside, supposes the Disease to lie in the Stomach and Spleen, and the *Duumvirate* to be affected, and therefore writes, that it is better cured by Stomachicks than by Cephalicks. At first he orders a Vomit, then divers Stomachicks both internal and external; such as *Elixir Proprietatis*, Oyl of Nutmegs, and such like.

§. 17.

Willis, rejecting the unreasonable use of Opiates, which by experience he has often found hurtful, does in the most con- tumacious watching advise People, when they go to bed, to drink a sufficient quantity; that is, about a quart of Ale; or of Emulsion made of the four greater cold Seeds and Almonds, or of Juleps, Decoctions, &c. The rest of the Cephalicks, which we have mentioned already in other Diseases of the Head, especially in the Chapter of the Phrenzy must not be neglected.

§. 18.

Sylbius, if a waking Coma have its rise from Pain, does the business by Anodynes, both internal and external. If Passions of the Mind exagitate the Animal Spirits, and preternatural watching arises from thence, he thinks they must be appeased by the discourse of some eloquent Friend. Also the excessive agitation of the Animal Spirits must be laid, and the Mind must be pacified as much as can be by various appeasing and mitigating Medicines, of which he recounts a prolix Catalogue. But if the Disease proceed from a sharp volatil and salt humor, to correct the acrimony, he prescribes divers oily emulsions of Seeds, and various Anodynes, above all which he far prefers the anodyne Sulphur of Vitriol.

§. 19.

THE Cartesians in this Disease, where kindled & boiling Bile, which causes the Blood to ferment, does predominate, do judge that it must be evacuated by Cholagogues and corrected by acids. But if the over thick Particles of the Blood cause a dilatation of the Pores of the Brain, and stimulate the acid juice from the places where it is lodged, to motion, and thereby encrease the effervescence of the Blood, then they advise things quite contrary, i. e. such as correct an acid, and at first Spirit of Wine above all things. And indeed the cure of this Disease, according to their *Hypothesis* does principally consist in Medicines that take off the acrimony, and repair decayed Strength, and In Sudorifics,

sicks, which by volatilizing the sharp Particles force them out of the Body.

§. 20.

Hitherto we have given you other mens Cures, now we will rather propound than obtrude our own young Experience. If therefore the Spirits be disquieted by a too great quantity of Bile, and waking be produced thereby, it must either be purged off by Cholagogues, or, if the Bile tend upwards, by Vomits; for what way Nature tends, that way we must follow. Our Cholagogue is either *Electuarium Sylii purgans*, or Pulp of Tamarinds, Prunes, &c. For Vomits we use *Sapa Antimonii*, *Tartarum emeticum*, & *vinum nostrum emeticum*. But stronger Vomits must be given with great caution. And if the animal Spirits be put out of order by the acrimony of Bile and other humors, namely of the *Serum*, (which is now called *Lympha*) they must be reduced to their former state, which I have very successfully done with the following Julep.

Take of Water of Vervain four Ounces, Lettuce, Phlegm of Vitriol, Syrup of Roses each one Ounce and an half. Mix them. Make a Julep to be drunk at several times. Or,

Take of Water of Plantain five Ounces, red Poppy three Ounces, distilled Vinegar one Ounce, Syrup of Quinces one Ounce and an half, *Tartarum Vitriolatum* two Drachms. Mix them. Make a Julep.

I am perswaded Emulsions are every whit as good as the things

aforesaid; which may be made of the foresaid distilled Waters, or a Decoction of Barley, with the four greater cold Seeds and white Poppy: for they mightily weaken and dilute the volatil Salt of the Bile. I have also given with very good success Opiates, *Theriaca celestis*, *Laudanum opiatum Cydoniatum*, or made our own way by a particular *Mentruum*, *Tinctura Anodyna Zwelferi*, &c. For these things are excellent against the rage of such Diseases, because they amend the saline acrimony, assuage all Pains, cause a Stupefaction, hinder the excessive generation of Animal Spirits (which is an enemy to Sleep) and check their motion, and thereby procure kindly Sleep, as I have often found by Experience, especially when Waking came from Pains. It should therefore always be our endeavour to remove all manner of Pain, which we may do by Opiates very easily, as I have successfully observed; nor could I ever perceive the least damage thereby, whatever some men, blinded with prejudice, may say to the contrary. Yet there must be this *Proviso* in the case, that there be no mistake in the Dose, but that it be determined exactly according to the Circumstances, especially according to the strength of the Patient. They must be given moderately, if proper to be given at all: for if you should give too much, you might either cause a worse Disease, or Death it self, and so cast out the Devil by *Beelzebub*. But if they be given seasonably, they still the impetuous motion of the Spirits, they assuage Pain, and so cause Rest, whereupon there is a decrease of the effervescence, and clearer signs of Concoction do presently show themselves,

themselves, there being a precipitation of the useful from the useless Parts, and so there is a better *Crisis* made, and a secretion of the concocted or precipitated matter, either by Sweat or Urine. And Opiates do good especially, where there is no Phlegm, but then they must be given in a small Dose. Of this nature are Camphore, *Sal Saturni*, and all narcotick Sulphurs of Metals. Half a Spoonful of Tincture of *Opium* prepared with rectified Spirit of Wine would be of admirable use in this case, because by reason of its subtilty it sticks in no place, nor breeds Obstructions, but rather by raising a gentle Sweat carries the Particles of the *Opium* out of the Body. In case of weakness, where Opiates cannot be taken inwardly without great hazard, you may use them externally with safety. Among Externals, I greatly value the somniferous Mixture, which my good Father *John Dolau*, an Apothecary, above Threescore years old, found great benefit by. It follows.

Take of *Unguentum Populneum*, *Alabastrinum* each half an Ounce, Swallows Blood one Ounce, Oyl of Nutmegs by expression one Ounce, oriental Saffron one Drachm, *Opium* dissolved one Drachm and an half, Oyl of Henbane seeds by expression, of white Poppy seeds by expression each one Drachm. Make a somniferous Mixture to be applied to the Temples spread on a Leather.

I have found by experience, that all things which correct the acrimony of the volatil Salt, are good in this Disease inwardly. Hence it is that I have found so great benefit in Patients of this nature from our

Balsam of Antimony, united with Oily and spirituous things, than which I have not found any thing better for appeasing the Spirits, and taking off the acrimony from any humors. All volatil oily Salts have the same effect, especially this following, *Sal volatile oleosum nostrum*.

Take of Salt Ammoniack, Salt of Tartar each one Ounce, volatil Salt of Harts-horn one Ounce and an half, volatil Salt of Amber three Ounces, Spirit of Urine two Ounces, Rain water four Ounces, Oyl of Cinnamon, Cloves each half a Scruple. Mix them, and destil them according to Art.

Volatil Acids do the same thing in a manner; because by coagulating the Blood more, they separate the abounding serum from it, and discharge it, when separated by Urine and Sweat. And out of volatil Acids we make choice of these, viz. *Tinctura Bezartica Michaelis*, *Mixtura simplex*, &c. Spirit of Soot, and *Liquor Cornu Cervi succinatum*, &c. are good in this case. When the Blood is bilious and abounds with too much volatil Salt and so causes Waking, we must let Blood, especially towards the Evening, that it may the more easily cause rest.

An *Oxyrrhodinum* made of Oyl of Roses, and Vinegar of Roses, which has extracted a Tincture from *Opium*, is proper. Or,

Take of Rose-water six Drachms, Saffron one Drachm. Mix them for an Epitheme to the Temples. Or,

Take of the Marrow of a Calfs Bone, of a Stag fresh each half an Ounce, *Opium* dissolved two Grains. Mix them. Among

Among Externals we recommend Frontals, Ointments, Lotions of the Feet, Fomentations, &c. A Cataplasim made of Peach-stone Kernels, white Poppy Seeds and Womens Milk will do good. Balsams made of cooling Anodynes, Hypnoticks, and Narcoticks are good, and several other things which Books of Practice are full of, too tedious here to relate.

The Feet also may be held in a warm Bath, wherein heads of Poppy, Chamomil-flowers, and emollient Herbs are boiled, to temper the acrimony of the Blood. Let the Soles of the feet be anointed with Goat's Suet.

It is our custom to put the Patient (yet due regard had to cir-

cumstances) into a Shirt wet in cold Water, and so leave him for an hour or two, within which time, Sleep usually ensues.

Here also we must obviate other Symptoms. For a Fever we may give a sudoriferous mixture of Minerals or other Specificks, before-mentioned, to which we may add of Camphore two Grains, *Laudanum opiatum* half a Grain or a whole one, Syrup of red Poppy two Drachms. Mix them.

For Thirst we may give *Lapis Prunella*, and Camphore; or Spirit of Nitre may be dropt in Drink.

And Sleep must by all means be procured, lest the Patient fall into a Phrenzy.

CHAP.

CHAP. VII.

Of a Catalepsis.

§. I. Definition.

A *Catalepsis* (by some called *Catochus*, by *Sylvius Prehensio*, à *Prehendo*; by some *Congelatio*, because they that are sick of this Disease are as stiff as if they were frozen; by others *Stupor vigilans*, because they that are taken with it, are void of Sense, and lose all Motion of their Body) is commonly described to be a sudden seizure of the Mind and Body, with a failure of the Senses, in which, he, that is taken with it, keeps the same posture of the Parts of his Body which he had, when he was taken; he remains sitting or standing, his Eye-lids are stiff, his Feet ready for a walk, his Hand reached out to take something; and, in a word, he is a Statue alive. This is a rare Disease, yet we have some Instances in *Hippocrates*, *Galen Comment. in 1. Prorrh. Marcellus Donatus*, *Schenckius*, *Sylvius*, and others. As some were going up a Ladder, one in the midst of it being taken with a sudden stupidity stuck so fast to the Steps, that he could no way be pulled from it,

but kept others from passing. *Bachanan* brings this instance for an undoubted truth, *l. 6. de reb. Scoticis*. I saw one at *Hanover* taken with this Disease, and observed all things as carefully as I could, of whom I shall give you a History presently.

§. 2.

THis Disease agrees with an Apoplexy in this, that in the one as well as in the other, Sense and voluntary Motion are lost; But it differs in this, that the Animal Spirits are not so affected in a *Catalepsis*, as they are in an Apoplexy; for they remain quiet in the external Parts, and being forced out of their place, they cannot return to their former work-house, but then exercising their power upon the Muscles, they cause a violent extension or stiffness.

§. 3. A Case.

Our Cataleptick was about Thirty seven years old, of a choleric Complexion, he was quarrelling

ling in his Drink and mad with Anger, he was deprived of all his Senses, as if *Gorgon's Head* at *Perseus* his Marriage had been presented to him; though he kept his Eyes open, yet he did not see; his Eye-lids were stiff; he answered nothing to any question; his Hand was stretched out to reach something. I was amazed when I beheld him. In the mean while he had so much life left him, that he was able to breathe, his Pulse continuing strong and equal, with some little motion in his Breast. This Patient was well cured by the application of proper Remedies mentioned at the end of this Chapter; however there remained some numbness in the Parts, if you call it wearisomness, you mistake not.

§. 4. Part affected.

Authors do generally agree, that the Brain, the fountain and original of motion and sense, or (if you had rather) of animal Actions, is the principal Subject of this Disease. Some accuse the Membranous substance of the Spinal marrow. Some will have the Ventricles of the Brain to be the Part affected, in as much as they being violently extended by a cold gross Matter, do hinder the ordinary motion of the animal Spirits. Most take the *Cerebellum* and the origination of the Nerves for the Part affected. *Willis* and *Sylvius* prove that the Brain is not the Part affected, so much as the animal Spirits themselves. *Fonteca* will have it to be the Heart. *Cartes de Pass. Anima* p. 1. Artic. 31. & *de Homine* makes the *Glandula Pinealis*, the chief seat of the Soul, to be the primary Subject. For

he proves that when this is affected, the usual Functions are not so well performed.

Some of the Moderns as well as the Ancients do make the Brain to be the Subject, as it is a similar Part imbued with Spirits. *Helmont*, that industrious Philosopher by Fire, makes the mouth of the Stomach to be the Subject of a *Catalepsis*, as it is of other sleepy Diseases. We take the *Cerebellum* with the Appendix of the Nerves for the Part affected.

§. 5. Diagnostick.

THE Signs of this stupendous Disease are very manifest. The Patients on a sudden are speechless, all stiff and immoveable, their Senses weak and dull, they remain in the same posture wherein they were taken; for they shut not their Eyes, if they were open before, but look stedfastly on something, to the By-standers thinking; their Eyes are for the most part open and fixe; the Eye-lids are found stiff; if the Patient were sitting, he remains sitting; if lying, he continues in the same posture. There is a suppression of Stool and Urine, respiration continues entire and unhurt, as appears by the rising of the Breast and *Abdomen*: For the Spirits come in plenty sufficient into the Organs of Respiration, and the Circulation of the Blood is still vigorous. And it appears by the Pulse being like to one natural, that the effervescence and ferment of the Blood in the Heart, are good, and that the Blood circulates freely through the Lungs. By this legitimate effervescence of the Blood, Spirits are bred in great plenty, which get into the Breast: no wonder therefore if respiration be

be free, while the Patient is as immoveable as a Rock.

§. 6. Cause.

AS many Men, so many Opinions are there about the Cause of this most intricate Disease. The Ancients will have the Cause to be a cold and dry intemperature of the Brain, whence it happens that both the Brain and Animal Spirits are congealed and dry. They prove by reason that a cold and dry matter, such as Melancholy, does frequently introduce this Disease. Wherefore among the remote Causes they place a very cold and dry Air, also a mixture of Phlegm and Bile, which, if they abound immoderately, may breed the same intemperature. And they do not only hold that the foresaid Humors, but that Vapors of the like nature may cool and dry, and as it were congeal the Brain and Spirits.

§. 7.

THE Chymists blame a narcotick Sulphur, which fixes the Animal Spirits. Some of them derive this congelation of the animal Spirits from a Mercurial Principle, and indeed from a Mercury altered and destilled by change of degree, for (they are the words of the famous Rolfincius) *Spodium* put into Wine congeals the outer surface of the Wine; so here the Mercury being put into a Rage by its own innate Power, congeals Bodies and makes them stiff, as Sulphur acts upon the Sword, not the Scabbard; upon Money, not the Bag. There are some of the Chymists who feign I know not what Spirit, breaking

out of the Caverns of the Earth, which turned some Country People and the Cows, as they were milking, into Stone.

§. 8.

HELMONT'S Followers blame the *Archem*, as having contracted a foul Light, kindled by acid corrosive Salts. For *Helmont's* Acidity, and *Tachenius* his Acid being strangers to the Sphere of their Goodness, and becoming salvage and hostile, do make dull and fix the Powers of the Brain.

§. 9.

SPIRITUS proves, That the animal Spirits are coagulated, like Spirit of Wine digested six Weeks by Spirit of humane Urine. Therefore he thinks, that in a *Catalepsis* the Animal Spirits are carried every way from the Brain by the Nerves, those conveyers of the Spirits; but in some sort coagulated and thickened, and so more dull and stupid, and not so moveable and fluid, as they ought.

§. 10.

THE Cartesians do obstinately maintain, that this mutation can happen to such Bodies for no other reason, than that the *Glandula Pinealis* is obstructed on one or both sides. Therefore the immediate Cause consists in the obstruction of one or both sides of the common Sensory, and that in this Disease the Soul does not want an endeavour, but power to determine the Spirits. For they prove that in the Fit there is a Will to move the Parts, but that they cannot move

move them; no, nor so much as speak.

§. II.

WE reckon that the proximate formal Cause consists in the Faculties having no power over the animal Spirits when they are impetuously let out of the Brain, and in the Spirit's not being able to get back again, because the way is by some means or other stopp'd, yet still as new is bred passing in'o the Heart and Breast. For from whence can that unusual stiffness of the extreme Parts be derived, but from the Animal Spirits being forced at one push into the Muscles, and so puffing them up, like a Gut or Bladder blown up, and then tied? The *Cartesians* must acknowledge as well as we, that upon hindring the influx of the animal Spirits into the Muscles, the Limbs must immediately flag, like Sails without wind. But the contrary happens in our case, as all who have sence must acknowledge.

The Limbs therefore are not here flaccid but stiff. For we see in our case, that the Patient had given himself over much to Drunkenness and Anger, upon which he fell into this Disease, with a great stiffness of his Limbs and stupidity of his inner Senses. Who can think, but it must come from the Animal Spirits being sent out too plentifully from the Brain into the Limbs, and there being intercepted in their return? Some perhaps may object, that the motion of the Animal Spirits ought ever to be determined by the Soul residing in and about the *Glandula Pinealis*. But this falls to the ground; if we say that

the Animal Spirits may stop; just as our breath does in a Bladder, when blown and tied, it remaining tumid after we have taken away our Breath, and they are fed and overcome in the Limbs and other Parts, by the Spirits that are sent to the Breast; for respiration continues free. We may prove this by the Antecedents, for no man will deny, that after Drunkenness and Anger, and other violent Passions of the Mind, the Animal Spirits are made unruly. *Platerus prax. lib. 1.* observes that a *Catalepsis* came from generous Wine: for all these things intend the slight and motion of the Animal Spirits; and invite them to a desertion of their Place. When the Patient is spoken to and he answers not, it does not therefore follow that he hears not, because he endeavours to answer; but he is not able to force the Spirits into the Muscles of his Tongue, so as to speak. The *juvantia* and *nocentia* confirm this Opinion of ours; for all Antispasmodicks do good. And that there is one Obstruction in the Nerves, it follows from these Reasons; for that the Animal Spirits cannot get back again into their old place, and because of the *juvantia*, as we said before: for all things that are able to destroy the obstructing viscid, and so to remove the impediment, are very good, such as volatil Sharp Salts, &c. Of which more in the Cure.

§. 12. Prognostick.

THE Prognostick certainly declares this Disease to be acute and dangerous, while the most noble Part of the Brain is hurt, and the Animal Spirits are forced from their

their *Metropolis* and Country: For as (they are *Pliny's* words, l. 4. *Epist.*) in Empires, so in Bodies; the Disease is most grievous, which proceeds from the Head. An imperfect *Catalepsis*, as it is attended by milder Symptoms, is less dangerous, and the more easie to Cure, by how much more difficult a Cure one more exquisite does require. For an exquisite one is always Mortal, as it proved in our Patient.

It is incurable, according to the excellent *Sylvius*, if it seize Old Men. On the contrary, Young Men in their full strength may more easily be cured, as it happened in our case. In regard of Cure, that is safer which comes by Sympathy, than an Essential one. If but few animal Spirits remain in the Head, then the case is very dangerous, especially if the origination of the Nerves be obstructed by the viscid humor. If it come from Narcotics, in some mens Opinion it is exceeding dangerous. There is no great danger in cholerick Persons.

As to the event, it ends in safety presently, if strength be correspondent; but if that be wasted, death certainly ensues.

Ærius l. 6. c. 4. Saw a young man saved by large Bleeding at the Nose.

Ballon l. 2. Reports how a Knight's Servant, who had been ill a long time of a double Quartan, died of a *Catalepsis*.

It often turns to an Epilepsie, Apoplexy and other soporous Diseases; and then it is dangerous.

An unaccustomed Flux of the *Menses* or Hemorrhoids supervening is reckoned safe; Except a *Cataleptic* be timely cured, he will continue torpid.

§. 13. Dietetick Cure.

AS to the way of Living, the Air must be temperate, serene, pure, not cold, thick, cloudy, or full of showres. That Congelation, which is caused by external cold is little of kin to our Disease, unless a Man will with *Charleton* admit a Gorgonick Wind, by which, when it blows, all things that are in its way do congeal and grow hard.

The Meat must be of good juices; all salt, savoury or windy meats, all dried in the smoak, and all that are offensive to the Head, must be avoided. Wine must be small, the Beer well wrought and clear; Mede or Pilsen; or an aromack Decoction are proper. Spirit of Wine and all rich Wine must be avoided.

Sleep and Waking must be moderate; for wherein they exceed mediocrity, they waste the Body, and instead of the animal Spirits, which they dissipate, they fill the Brain with foreign vapors.

Rest and Motion must not exceed bounds; Study and a Seditary life are naught.

In Excretion and Retention there is a great power to cause a *Catalepsis*: for the Excrements of the Pelly, Urine, Sweat, Menstruous Blood, Child-bed Purgations, Cholera, Snort, and the *Lympha* retained, do putrefie, taint the Blood, and so hurt the Spirits.

As to the Passions of the Mind, the case before-mentioned declares what power they have over the animal Spirits. Anger and Fright may easily turn the Animal Spirits out of their seat; and so cause a *Catalepsis*. Thus too much joy dissipates the Spirits. We have a notable instance here at *New-Hanover*.

in my Wife's Grandfather *Daniel de Latre*, Magistrate of the City, who when he saw the Siege raised from this City, was struck dumb with joy, and died immediately. *Tulpius* and *Rondeletius* have observed a *Catalepsis* from Love, all things therefore must be moderate which will last long. *Alex. Bened. l. 1. c. 6.* observed a *Catalepsis* from Worms. And *Grembs Arbor. ruinos. pag. 206.* writes how a *Catalepsis* came from an *Erysipelas* ill cured.

§. 14. Pharmaceutic Cure.

THE Ancients used in the Cure of this Disease things moderately hot and moist. But first of all they give a Clyster. Then they raise the Patient with Shoutings, and painful frictions of the extreme Parts, and give sneezing Medicines for the same end. As there is occasion, they order Spirit of Wine. They anoint the Parts affected with comforting Unguents of Oyl of white Lilies, Chamomil, Elder, Dill, Rue, and Castor. They set much by a Bathe of warm Oyl. When the Patients are come a little to themselves, they prescribe Purgatives, as *Confectio Hamech*, *Diacatholicon*, *Diasena*, *Senna*, Polypody of the Oak, and they endeavour to evacuate the peccant matter by Vomits. Afterwards, Strengtheners, Resolvents, and Correcters of the intemperature that is left behind, *sc. Theriaca Andromachi*, *Diamusc. Latificans Galeni*, and Conserve of Bugloss roots, compleat the Cure. It is their advice carefully to abstain from four things in this Disease.

§. 15.

THE Chymists do in this as in all soporous Diseases, highly ex-

toll Tincture of Gold, Liquor of Amber and Mosch, they also commend the Magistery & Oyl of Pearl dissolved of each half a Scruple with Syrup of Cinnamon, and other *Arcana*, as the Spirit and Sweet Oil of Vitriol.

§. 16.

WILLIS does in this and in an Apoplexy commend all manner of Cephalicks, which, because we have already mentioned them in the Chapter of an Apoplexy, we shall now pass over.

§. 17.

SPIBIUS says, a *Catalepsis* is difficult to cure, unless it go away of it self. Yet he thinks that the Cure of this Disease may be obtained by Medicines endued with a sharp volatile Salt, such as are all sharp and aromatick Plants. We will add one Composition according to his mind, which is a volatile oily Salt, and certainly an excellent Medicine.

Take of the volatile Salt of Rue or Thyme three Ounces, of the fixt Salt of the same two Ounces, the distilled Oyl of the same three Drachms. Make a Soap of them, and digest them in a gentle heat; afterwards sublime them in a Glass Phiol into a volatile oily Salt.

§. 18.

THE Cartesians endeavour to remove the Obstruction of the *Glandula Pinealis*, and to promote the motion of the animal Spirits. Wherefore they mind the animal Spirits of their duty by using divers

divers Remedies both inward and outward, and they stir up and provoke them to represent divers strong motions to the Mind, that in this manner by briskly moving the *Glandula Pinealis* on the obstructed side, the remainders that lye in the obstructed Pores, may be got out; partly also that being made more ready in the obstructed side to carry the violent motions of the external Senses, they may break their Prison and remove the Obstruction, if not presently, yet at least gradually, and may set the Soul at its ancient liberty. To this end they prescribe all manner of volatil Salts, such as volatil Salt of Harts-horn, of Soot, Spirit of Harts-horn, *Elixir vite Marthioli*, *Aqua Anhaltina*, and other cephalick Waters, which strengthen the Brain and the *Glandula Pinealis*, the Seat of the Mind. They highly commend violent motions and frictions of the Body with hot and rough linen Cloths, and plucking and combing the Hair, and potential Cauteries; they advise the holding of strong smelling things to the Nose, as Castor, and Spirit of *Sal Ammoniac*, &c.

§. 19.

WE reckon the Cure of this Disease should be directed to check in some measure the impetuous motion of the Spirits into the Muscles, and to help the recourse of them, which is hindered: for *Wedelius* in *Physiolog. Med.* p. m. 57. holds That there is a circulation of these Spirits, and that it may be hindered. This Recourse is hindered because the passage is stoppt, by which the Spirits went out: And this way is obstructed either by a Tartareous, or by a vitcid tough Matter, as we

said in the Cause. Therefore all Remedies are proper, which are able to incide or attenuate any viscid Matter, and to evacuate it, as there shall be occasion. Among which things sharp volatil Salts, either aromatick or oleous do excel, which by penetrating do most powerfully attenuate and dissolve all viscidities and obstructions which they meet with. Wherefore we gave Spirit of *Sal Ammoniac* destilled with Aromaticks, as Cloves and Cinnamon, to our Cataleptick, as a great secret, and with good success; now and then we gave *Sal volatile oleosum Sylvii*, and *Liquor Cornu Cervi Succinatus*. Nor would we neglect Evacuaters in such as are strong. Among others, take this following Receipt.

Take of Conserve of Roses two Drachms, Resin of Jalap ten Grains, *Elaeoccharum feniculi* half a Drachm. With Syrup of Cinnamon make a *Bolus* according to Art. Take it at one time; Or, Take of Extract of black Hellebore, Leaves of Senna each half a Scruple, Oyl of Amber one Grain. With Spirit of Lily Conval. make Pills according to Art.

Here also, as in an Apoplexy, the Cure must be begun with Clysters; because sometimes the Patient can take nothing else.

Vomits also, as there shall be occasion, are good to discharge the Stomach of the filth lying in it. For the sake of young Beginners, Take the Receipt following.

Take of *Tartatum emeticum Mynsichti* three Grains, Salt of Wormwood, Tamarisk each two Grains, Syrup of Raspberries two or three Drachms. Mix them.

I do not at all doubt, but in this Disease a contumacious Obstruction, and a total interception of the animal Spirits may be caused divers ways: For it is well known to curious Anatomists, that there are Valves in the Nerves, which being shut, there is no regress for the animal Spirits, and this is the reason, why I, as well as the great *Sylvius*, think that many cataleptick Persons cannot be recovered. And here volatil Alkalies are far better than fix ones. For the sake of young Beginners, I shall communicate a Process or two.

Take of Sal Ammoniack purified, Tartar each one Ounce, volatil Salt of Harts-horn three Ounces, Spirit of Urine two Ounces and an half, Rain water destilled four Ounces, Oyl of Cinnamon, Cloves each ten Grains. Mix them and destil them according to Art. Or, Take of rectified Spirit of Wine six Ounces, Oyl of Cinnamon, Thyme, Mace each two Drachms, Fennil half an Ounce. Let them stand mixt for some time, till the Spirits have soaked up the Oyls, then add of the best Spirit of Sal Ammoniack three Ounces. Mix them, & destil them out of a long Phiol in Sand. Keep it for Use.

I got great credit by this *Arcanum*. If there be malignity besides, we add Alexetericks and Alexipharmacks. I question not but these following will do good.

Take of Diaphoretick Antimony half a Drachm, volatil Salt of Amber six Grains. Mix them for a Paper at one time. Or,

Take of *Bezoarticum Lunare* six Grains, Cinnabar of Antimony

three Grains, Conserve of Roses, of Clove-Gilly-flowers each one Drachm. Mix them. Make a *Polus*. Or,

Take of *Bezoarticum minerale* half a Scruple, volatil Salt of Vipers two Grains. Mix them, and give them.

Take of *Aqua hirund.* cwn Castoree, Water of Betony, Linden-tree Flowers each one Ounce, *Sal volatile oleosum Sylvi* one Scruple, Syrup of Peony six Drachms. Mix them, and give them. This following also will do good.

Take of red Coral prepared half a Drachm, leaf Silver finely powdered red eight leaves. Mix them. Make a Powder.

Our Lunar Spirit also is very good. I am periwaded that Cinnabarines have altogether as much Virtue in them. Some cry up new Experiments, which I designedly pass over, lest I should reveal what was committed to me as a Secret. It is good to anoint the *Spina dorsi*, and the Neck with these things following.

Take of the fat of Bever, *Balsamum Apoplecticum* each one Scruple, destilled Oyl of Rue ten Grains, Oyl of Dill by Decoction half an Ounce. Mix them. Or,

Take of Oyl of *iris*, of Earth-worms each two Ounces, Castor powdered four Scruples. Mix them. Or, use *Balsamum spasmodicum Mysictri*.

Particular Evacuators, which respect the Head, and are therefore called Purgers of the Head, are not to be neglected, as Errhines, and Sternutatories, among which white Vitriol put into the Nose with Marjoram Water, is best. But the Physician

ſician muſt have a Care, that he do not quite ejeſt the remainder of the Spirits from the Brain, and ſo haſten the Patient's end. Caps quilted with aromarick Herbs may be uſed, and Leeches may be ſet to the crown of the Head warm. I muſt commend Bathes as fitteſt to diſſolve tartarous Mucilages. In defect of natural we may make artificial ones, of which we have treated before. Rubbing with warm and rough Linen, plucking the Hair, and combing often answer expectation. Cauteries both potential and actual may be uſed, for they operate powerfully; and above all we prefer *Moxa*, which applied to the crown of the Head is a preſent Remedy in this Diſeaſe, as *Geiſſuſius junior* in his Diſcourſe of *Moxa* does prove, not

only by Experience, but by Reaſon. You may ſee the reſt of the Cephalicks and Antiſpaſmodicks in the Chapter of the Apoplexy: For we cure this Diſeaſe as an Apoplexy; and we may well call it an *Apoplexy inverſe*, ſince in an Apoplexy the way is ſtopt from the Spirits within the Brain, to the external Parts, upon which all the Limbs flag, like Sails without wind; But in a *Catalepsis* the animal Spirits are ſo detained in the outer Parts, that the Brain flags. And any one that will peruſe Praſitioners, whether old or new. will find that this Diſeaſe is cured with the ſame ſort of Medicines, that they cure an Apoplexy withal. For when the Obſtruction is removed, the Diſeaſe is cured, *Vellut ruunt ſubductis teſta columnis*,

H 3

CHAP.

CHAP. VI.

Of a Vertigo, or Swimming in the Head.§. 1. *Description.*

A *Vertigo* is so called from *vertendo*, or from *vortex*. The Greeks, if it be a simple one, call it *Σκότωμα* and *Δῖν* Ⓞ *Δῖν τῆς ὄψεως*; but, when it is accompanied with dimness of Sight the Ancients called it *Σκοτῶδιν* Ⓞ and *Ἰαίρυσ* Ⓞ. It is defined, or rather described, to be a hurt imagination of an apparent turning about of the Head and Objects, sometimes simple, sometimes with dimness of Sight, depending upon the disorderly motion of the Animal Spirits in the Brain. All do unanimously conclude, that here the Imagination is depraved, because the Phantasie and common Sense of those that are taken with this Disease, think that quiet Objects do move; yet, they say, the Judgment is found, because the Patients understand this their error: And all ascribe this fallacy to the disorder of the Animal Spirits. Therefore the *Vertigo* is a Disease wherein both the Head and all things else seem to turn round; and because the Spirits do not rightly influence the external Parts, the Patient falls down, unless he hold by something. But of this, more in the Cause.

Difference.

A *Vertigo* is either Essential, when the Cause is in the Brain, which you may know by the Disease's continual affecting of the Patient; or by Consent, when the Cause, that disturbs the Brain, lies in some other place, may be, in the Spleen, Womb, Stomach, or some other Part. And the Consent of these Parts is deduced from a subtil extension of the Vessels, rather to be conceived in the Mind than expressed in words, by reason whereof, one Function certainly does so exactly correspond with another, that upon the ignoble Part's being hurt, the most noble are hurt and in pain; just as in a Musical Instrument, when a string is down or broke, the whole Harmony is spoiled. And one may guess the same to happen in the Nerves and nervous Fibres, upon excessive loosening, stretching or breaking of which, the whole Symmetry is marred, and abundance of Diseases follow.

§. 2. *Subject.*

The general Opinion of Authors is, that both the Ventricles and Substance of the Brain are the Subject of this Disease. According to

Cellulis, the animal Spirits, which are very much disturbed, are the immediate Subject of this Disease; and the mediate one is those Parts of the Brain, wherein imagination and common sense reside. And these according to him are the *corpora callosa & striata*. The Cartesians blame the porous substance of the Brain as the Part affected. But I take the Disease to lie about the *Corpora callosa* and *Striata*.

§. 3. *Diagnostick.*

AS for the *Diagnosticks*, in a *Vertigo*, either darkness, or some colours, appear in the Eyes of them that have it; sometimes Flies appear; and all things seem to turn round with them, so that they must fall, unless they take hold of something near. Several fall to the ground, and cannot raise themselves, till the Fit be a little over. For it often happens, that they who are taken with this Disease, fall to the ground, without turning their Body, just like them that have often turned themselves round. I saw a vertiginous Person full of gestures in his Fit, he jumped up with his hands stretched out, as if he would catch flies, and at last fell to the ground, and that all the while his Fit lasted, he could not stand upright, but crept along. From once turning round, some suffer as much as others at several times; yea, they that are troubled with this Disease, are in the same condition, if they see another turn round, or a Wheel, or any thing else; or if they look from on high. And if the Disease be Ideopathick, then there has proceeded the Head-ach, or dulness in it, hurting of the smell or taste, tingling of the Ears,

and there is no sign of any other Part being hurt; But if it be by Consent, *viz.* from a depraved mass of Blood, or hurt of the Stomach, Spleen, Womb or *Hypochondria*, then Squeamishness, Heart-burn, and loss of Appetite have proceeded. If it proceed from any other Part of the Body, it will appear from the proper signs, as from the *menfes* being stopt, and a prudent Physician will find it out. This Disease uses often to afflict People at certain times.

§. 4. *Cause.*

IN the Judgment of the Ancients, this Disease arises from abundance of hot and spirituous Blood, and they support themselves with this, that a *Vertigo* often takes its rise from acute Diseases and Burning Fevers. And they hold, that sometimes it is caused by crude Humors, which now and then are malignant, and are bred either in the Head or in some Part of the Body below, most usually in the Stomach, Spleen or Womb, because of the communication that these Pores have with the Head. All the Grecians in a manner ascribe the Cause of *Vertigoes* rather to vaporous, halitious & spirituous fumes, than to thick and gross Humors, asserting that accustomed evacuations suppressed, and all Humors in general which send out many Vapours, windy, dry and hot, turbulent and malignant Spirits, may cause a *Vertigo*. For these Vapors and Spirits (say they) by their motion move the Animal Spirit (which is thought to be the vehicle of the Soul) round, or some such disorderly way; so that the man verily thinks that is done without him,

him, which is done within him, and the judgment of the Imagination is perverted, which makes a Man think he turns round, and sometimes that he is falling. They will have the said Vapors to roul round, just as flame or smoak roul round an Oven, while they have no vent. The Schools say also, That this Disease arises from the hot intemperature of the Brain it self, because when it is hot, it may draw many Vapors, and put the Humors in a heat or ferment.

§. 5.

Paracelsus and his Followers say little of the Nature and Causes of this Disease. Yet many of them fly to a Mercurial principle, some admit also of a Saline one. **Quercetan** and others say, That Vapors and Exhalations proceed from resinous, tartareous and sulphureous Humors contained in the Stomach and other Parts, or rather from the unctuous and sulphureous substance of the Blood.

§. 6.

Helmont in a Vertigo blames a turning or whirling faculty proceeding from the Stomach. For according to him, eating of some certain Meats has caused a Vertigo (as his Writings testify) and particularly towards Evening; that is, before they were yet concocted. He says, we may believe him, that every Vertigo creeps from below, without Vapor or Fume; and that the Head is governed by the Stomach. Also *Cip. 9. Tex. 86. de Lithiasi*, he says, a Vertigo is caused by an inebriative Poison, such as is Smoak of Tobacco.

§. 7.

Willis thinks the conjunct Cause of this Disease to be a perturbation of the Animal Spirits, raised by heterogeneous Particles and troublesome Spirits, which lye either in the mass of Blood, or in other Humors. For the vertiginous Particles innuating themselves into the midst of the Brain, darken the Spirits. Things that remotely do very much contribute to the breeding of this Disease, are the way of Living, all cacochymick Blood, the Scurvy, long and malignant Fevers, which cause a dyscrasie of Blood, and easily afflict some part of the Spirits.

§. 8.

The Sybians in this Disease blame the Animal Spirits, disturbed more or less, which are confusedly and vertiginously forced to the Eyes and Organs of Touch.

§. 9.

The Cartesianus say, the Vertigo is a Disease, in which all things near seem to be carried round, by the depraved, that is, circular, Motion of the Animal Spirits; and that, because the Humors and Blood are so exagitated, that the roots of the Nerves are affected, and so one pressing another, all visible Bodies seem to turn round. And this compression they prove, comes from the badness and abundance of Blood; because Plethorick persons complain most of this Disease by reason of the compression of the Pores of the Brain, whereupon the Animal Spirits cannot pass the Brain and its Pores in a right line,

line, but rebounding one upon another, wheel round, and move circularly. As *Antonius le Grand*, p. 8. *Instit. Philos.* Art. 22. §. 12. Discourses at large of this among other Matters

§. 10.

W⁷^E think that a *Vertigo* is a little Epilepsie: For a caliginous, caducous *Vertigo* is in young Men a fore-runner of the Herculean Disease, as it is in old Men of an Apoplexy. It often happens that a malignant Character is impressed upon the mass of Blood and Animal Spirits, through the fault of some private part, whereupon the Spirits betake themselves to the *Corpora callosa & Striata*, and being disorderly sent out thence, it cannot otherwise be, but that they must whirl round. And having found that way, the rest of the Passages and Ways are forsaken, and so a *Vertigo* is caused; which is the more probable, because upon a man's turning himself often round, the whirling round of the Spirits continues a good while after he has done turning, because the Spirits continue their former course. The remote Cause of the Circumgyration is this, When foreign and hard Particles being carried to the Brain do yet stop up the right passages about the optick Nerves in the Brain, they do still keep their old by-way, and cause this disturbance. And this may serve for a Reason, That in Drunkenness a *Vertigo* proceeds from too great effervescence of Blood, in that by the despumation of the subtil Parts, and separating of the grosser, some of both are carried to the passages of the Brain, (for we see, how in all fermentation of Wine or Beer, sulphureous, foeculent and tartareous

Parts are cast out with the subtil) which terrestrious and crude Parts obstruct the Pores of the Brain, so that the Spirits cannot proceed and irradiate freely, whereupon they rebound, and whirl round, just as when one Wind meets with another, or is stop't, a Whirlwind is caused. Sometimes this Disease arises from a hot Cause, but it is by accident, inasmuch as it gives brisker motion to the Blood (like Wine in Drunkenness) and so more Blood is carried to the Head, and more Spirits bred, than can conveniently be distributed by the Nerves, which makes them turn round and cause this Disease. As I am writing this, a new Reason comes into my Head, which is this, Because, in Scorbutick Fevers, in Dyscrasies of the Blood and Humors, when men abound with divers heterogeneous Particles, as well sulphureous as saline, a *Vertigo* is occasioned, where any one may plainly see that the way is obstructed by these Particles. But as for that *Vertigo*, which is caused by Consent, especially of the Stomach (for many upon fasting are troubled with this Disease) the reason of that is, not because sharp Vapors get up into the Head and darken it, (which error of the Ancients has long since been exploded) but rather because some sharp, pungent, & aculeate matter lodging in an empty Stomach, when it is idle and has nothing else to do, causes a vellication and shrinking of the nervous fibres of the Stomach, which vellication or shrinking, as all other spasmodick motions are, is communicated to the Brain. Where, upon the motion of these Fibres, the Animal Spirits are disturbed, the motion of the Blood is quickned, and (if I may

so

so say) a despumation of the vicious Particles is made, whence naturally ensues the Obstruction of the Optick Nerves; and when they are obstructed, the Spirits move disorderly, which is the rise of this Disease. It arises also from sailing in a Ship, riding in a Coach, looking from on high, and such like things. A caliginous *Vertigo* seems to have its original from defect of Animal Spirits, and their depraved motion; because enough of Spirits cannot be found to fill the optick Nerve and the Eye, which a very little will usually do: Hence it is apparent, why People commonly have a *Vertigo*, before they fall into a Swoon.

§. II. *Prognostick.*

WE will now pass, from the consideration of the Causes, to the Prognostick. A *Vertigo*, if it last long, threatens either an Apoplexy, Falling-Sickness, Madness, or some spasmodick Disease; wherefore so pernicious and daring an Enemy must not be slighted. The generality of Practitioners, according to their great observation, do hold, That they who in a *Vertigo* see green or purple colours, are most inclined to the Falling-Sickness; they who see red, to Madness; and they who see black, to an Apoplexy.

But every *Vertigo*, while it is new, is usually without danger, and easie to be cured, as well as other Diseases in the beginning: And so is that which comes from Drunkenness either with Wine or Tobacco. But, not to be too tedious, let the curious Reader consult *Hippocrates*, in whose Store-house there lies much in a little room.

§. 12. *Dietetic Cure.*

NOW we will proceed to that part of the Cure, which consists in the Six Non-naturals, as the true Sons of *Æsculapius* call them.

Make choice of a serene temperate and clear Air; whence we may easily conclude, that an impure, cloudy, cold, and corrupted Air must be avoided. Who is there, that finds not the state of his Body as wavering as the Wind? When the North-east Wind blows, as the Air is cleared of Clouds, are not the noxious Humors in the Body wasted, and cloudiness of Spirits dispelled? But, on the contrary, if the opposite South-west point blow, how greatly does it often damnify mens Health?

Eat Meat of a good juice, and easie of digestion, not windy, nor sharp. Avoid therefore all sorts of Pulse, Beans, Pease, and Lentils. Eating in the Morning, especially a Toast dipt in some rich Wine or Sack, (which *Helmont* himself did when he was vertiginous) is good to soak up that sharp matter, which often vellicates the Fibres of the Stomach, and causes this Disease. For here we must have as great care of eating too little, as of too much. Moderation is best.

Let the Drink be small Wine, or mixt with Water, or Spaw Waters. You must not therefore drink muddy Beer, that is not well wrought and too full of Hops; nor much strong Wine, because it augments the fermentation of the Blood, and thereby sends many crude Particles to the Brain.

A little Exercise is good; but Rest is rather proper for the Head.

Mode,

Moderate Sleep is proper ; but Watching is naught.

The Excrements of the Belly must be promoted every day, either by Art or Nature. The case is the same in the usual Fluxes of the *Menses*, *Hæmorrhoids*, &c.

The Patient must allow of no Perturbations of Mind, such as Anger, Sorrow, &c. because they very much prejudice Mens Health.

§. 13. Pharmaceutic Cure.

Now let us pass to the Pharmaceutic Cure. The *Antients* encountered this Disease with Evacuators ; and they used these that follow. Syrup of Roses made with many Infusions, *Diaprunum solutum*, *Diacatholicon*, *Hiera picra*, *Diacolocynthis*, *Pilula cochia, aurea, Arabica, Mastichina, sine quibus esse nolo, de 5 generibus myrobalanorum*. If you would have Simples, Take Tamarinds, Rhubarb, *Manna*, *Senna*, Polypody, Dodder of Thyme and Agarick, of which you may make several Medicines. When they think it proceeds from the Stomach, they give the common Vomits, which every one knows. Then they fly to Revellents and Diverters. If the Disease proceeds from Blood or hot Humors, they bleed in the cephalick Vein, and repeat bleeding sometimes. Among Revellents they reckon Clysters, Frictions of the Limbs with a rough linen Cloth warm, and Cupping glasses applied to the more remote Parts. They open the *Hæmorrhoid* Veins, provoke the *menses* ; nor do they neglect Sneezing-Powders, Gargarisms, Apophlegmatisms and Blistering with Yeast and Vinegar. They highly value an Issue on the top of the Head. They extol Earthines of

Juice of Sowbread, or Pimpernel inust out of the Hand. These things premised, they use things to stop the turbulent motion of the Spirits, such as Syrup of Quinces, Pomegranates, Sugar of Roses, Juice of Barberries, *Diacydonium*, destilled Water of Lettuce, Violets, Plantain, &c. In a hot Cause they say it is good to smell to Camphore, Roses, Vinegar, Oyl of Roses, &c. They frequently use washing the Head with Oyl of Roses and Vinegar, and Embrocations and Bathings. Their Medicines to strengthen and dissolve the remainders, are Syrup of Apples, *de Stachade*, Conserve of Borage, Bugloss, Sugar of Roses, *Diatragacanthum frigidum*, *Diatrion santalon*, *Diamoschu dulce*, Decoctions of Leaves of Betony, Mint, Rosemary, Sage, *Stachas*, Centaury the less, Galangal, Cinnamon, Seeds of Fennil, Anise, &c. They commend smelling to *Nigella*, Majorane, Castor, and such like things. And, to comprehend all in short, First of all they give a Clyster ; then bleed, if nothing hinder ; then perfectly purge off the Humors that are peccant, and that breed peccant Vapors ; afterwards they divert the violence of the Vapors, by Frictions, Cupping-glasses, and Scarifications. In the beginning of the Disease they order Astringents, to hinder the ascent of Vapors to the Head, which they blame so much. For instance,

Take of Rose Water three Ounces, Vinegar two Ounces. Mix them for an Epithem.

Last of all they strengthen the Stomach and Head, and disperse the remainders with Masticatories, Purgers of the Nose, &c. But if the Disease

Disease depend upon the Womb, they use *Castor* and other Uterines. When the swift turning or motion of things causes it, they must not look on such things. What Remedy must be used, when it comes from fasting, we have told you before. If the Disease have its rise from the suppression of any usual Evacuation, it must be promoted.

§. 14.

WE have heard the Judgment of an innumerable Company of the ancient Practitioners, now we proceed to the *Paracelsists*, who observe the same Method of Cure here that they do in the Epilepsy, of which we shall Treat in the following Chapter. Therefore in this Place we will only lightly touch upon such Things as are proper to this Disease. One of their chief Remedies is the Sulphur of Vitriol, to which some of them affirm the Tincture of *Luna* to be equivalent in Virtue, and this they defend with Might and Main. *Crollius* a Follower of *Paracelsus*, commends his Master's *Elixir Proprietatis*, and gives it in Water of Peony or Borage. Others give to drink with good Success in Water of the Flowers Lily of the Vallies, Salt of Amber and Pearls.

Amongst external Things they reckon the Apoplectick Balsam of Rue, Amber, &c. Also some almost ridiculously write, That the Fat of Deers and Serpents rub'd on the Temples, has a peculiar Virtue from the Signature or Character of curing this Distemper; because those Creatures climbing up high Rocks and Precipices are never affected with it. Others as simply affirm the Quintessence

of a Stork to be likewise very good.

§. 15.

IN the *Vertigo*, and in all other Distempers of the Head *Helmont* highly extols Vomitories, and in like manner the volatil Salts of all sweet Stomachicks and Cephalicks, as of Sage, Marjoram, Rosemary, Clove-Gilly-Flowers, Cinnamon. Thus this Author cur'd himself by taking a Vomitory, and drinking little Wine with his Meat, by means of which his *Vertigo* immediately ceased; and after he had many Times suffered a Relapse, he was in the End, by often taking Sulphur of Vitriol, perfectly cured.

§. 16.

Willis's Therapeutic Method of Cure in this Distemper, is as follows. In the first place, for the dispersing all the Clouds of the Brain, and composing the Disorders of the Animal Spirits, he commends all Cephalicks, as Coral, Amber, Man's Skulls, Roots of Male-Peony, Mistletoe, Peacocks Dung, &c. the divers Prescriptions of which we are not minded to set down here, but rather to refer the Reader to the Author himself. Therefore that the Brain may be freed from all the Inundations of the morbid Matter, Venesection is very good, and often to give a gentle Purge. He advises to make an Issue in the Leg or Arm, as also to open the Hemorrhoids with Leeches. He orders the Temples and fore-Part of the Head to be well washed every Morning in cold Water, and to be rubb'd with a rough Cloth. To take away any Dyscrasy

crasy of the Blood he uses temperate Antiscorbutic Alterers, as Occasion requires, and Chalybeat Medicines, Iron-Waters and Whey. That the Animal Spirits may be made pure and clean, the sick Person must every Day take such Medicines as consist of a volatril Salt, whose Particles are very subtle, such as Spirit of Harts-horn, Soot, *Sal Armoniac*, either simple, or impregnated with Man's Scull; as also the Tincture of Coral, Amber, Antimony, Elixir of Peony. Nor does this Author neglect Vomitories prepared of Salt of Vitriol, or Sulphur of Antimony, which he very highly extols, as also Clysters, and Vescatories to the Neck.

§. 17.

THe Method of the famous *Sylvius* in curing this Distemper is thus. His first Endeavour is, to reduce into a tranquil and quiet State, the Animal Spirits disorderly hurried up and down, and representing to him that is vertiginous, external Objects as turning round. To which End he orders Anodynes, and to better Purpose Narcoticks, but in a less Quantity. *Ex. gr.*

Take of the Water of the Flowers of the Linden Tree two Ounces and an half, Antiparalitic or Antiepileptic Water one Ounce, *Laudanum opiatum* three Grains, Syrup of French Lavender one Ounce. Mix them, and let the Sick Person take a Spoonful or two till the Vertigo be corrected.

Nor does our Author despise volatril Salts and Medicines of Castor, and also Vescatories and Vomitories, as we have it from his own Mouth,

§. 18.

According to the *Cartesians*, Care must be taken in the very Fit, how the Animal Spirits may be reduced into their former Order, which they assert may be done by several Spirituous Things which unlock the obstructed Passage, and likewise by Cephalic and Aromatic Balsams. But if the Distemper arise from a Plethora, they order Venesection, and prescribe other aqueous Things. But if the Mischief has its Original from a foul Stomach (which ceases by eating) as to Pharmacy, they call to their Assistance Vomitories and Medicines of Quinces, no less than they do Meats that are somewhat hard, as a Crust of Bread, or the like; for hereby that sharp Humor which lurks in the Stomach, and some Way or other boils and ferments of it self, and like Daggers, Needles, Lances, or Razors cuts and pricks the little Fibres of the Stomach, is corrected, and those sharp Particles are obtruded by being rubb'd and beat against by those Medicaments and Aliments. Out of the Fit, that the morbid Matter may be prepared, they use divers Digestives and Alteratives, after that either by Vomitories or other Catharticks they throw forth the peccant Particles.

§. 19.

Now we have a Mind to insinuate *Our own Way of Cure*. We are not arguing here either for *Galen*, *Paracelsus*, *Helmont*, *Willis*, *Sylvius* or the *Cartesians*, but only for the Truth; for according to that trite Saying; *We Love Plato, we love Socrates, but Truth is dearer to us than*

than both. Now this is principally to be endeavoured, That the Animal Spirits whirling round, be reduced again to their pristine Condition. If therefore the Enemy make an Invasion armed with Swords, Spears, Lances, and other sharp Weapons, and begins to show himself openly in the Stomach, he must be engaged with Vomits and altering *Alcali's*, and in this Case volatil *Alcali's* have much the Preference of the fixt, as being able both to absorb the Acid, and obtund its Points. Hence it is that *Liquor Cornu Cervi Succinatus*, and that excellent Remedy of *Schefer*, *Balsamus nervinus*, are so beneficial to those that are troubled with a *Vertigo*. All Spirituous Things are good in this Disease, because they dull and obtund the conglomerated Particles by hard rubbing against them. Furthermore, all Epileptic Waters are available, and other saline volatil Liquors, especially if they be sharpened by Camphore, and temper'd with the Essence of *Opium*, as Occasion requires: For, if *Opium* and Camphore be mixt together, they have a singular Virtue in hindring a future and imminent *Vertigo*. And hence it is that the ingenious *Craan* magnifies his camphorated *Laudanum*, wherewith in Fevers and many other Diseases he does Wonders. Let this be a Prescript for Beginners.

Take of Epileptic Water an Ounce and an half, Flowers of the Linden Tree two Ounces, Spirit of a Woman's Secundine one Drachm, *Elesaccharum* of Amber half a Drachm, *Laudanum* camphorated four Grains, Syrup

of Betony an Ounce. Mix them, and take it by Spoonfuls. Or, Take of Water of Lily of the Vallies, drawn off Wine one Ounce, Spirit of the same a Drachm and a half, the Spirituous Water of Chervil two Ounces, Peacocks Dung one Ounce, Essence of Chervil a Drachm, Syrup of Betony one Ounce. Mix them, and give it by Spoonfuls.

The following Scotomatic Tincture is excellent.

Take of the Flowers of Peony, Lily of the Valley, of each half an Ounce, Rosemary three Drachms, Sage, Betony, Lin-Tree of each two Drachms. Let them be digested in twelve Ounces of Spirit of Man's Scull impregnated with its Salt.

Amongst fixt *Alcali's* we reckon all earthy Things, as Chalk, red Coral, Amber, Crabs Eyes, Vitriol of Mars, Sulphur of Vitriol, the absorbing Powder of our most experienc'd Colleague *Wedelius*, and also this that follows, which very well deserves to be preferred before all other Remedies in curing this Distemper.

Take of Crabs Eyes finely powdered, Vitriol of Mars, *Species Diarrhodon Abbatis*, *Aromaticum rosatum* of each one Drachm, *Laudanum camphoratum* three Grains. Mix them, and make a Powder. The Dose is from half a Scruple to half a Drachm. Or, This following Powder.

Take of the Powder of the Root of *Doronicum* two Drachms, the cephalic Specific a Drachm and a half. Mix them. The Dose

is a Scruple at Morning, Noon and Night. Or, Take of Essence of Chervil, Flowers of Rosemary of each two Drachms. The Dose is twenty Drops. Or, Take of the Powder of the Root of *Doronicum* two Drachms. With a sufficient Quantity of Sugar make round Lozenges. Or, Take of the Root of Florentine Orrice, *Doronicum* of each one Drachm, Flowers of Lavender, Betony, Cardamoms, Cubebs of each two Scruples. With a sufficient Quantity of Sugar make Tablets.

Apoplectic Balsam mixt with Balsam of Marjoram is a great Preservative. But I am unwilling to spend any more Time in transcribing and raking together these Receipts. That excellent Remedy, the volatil Spirit of Vitriol, given to the Quantity of ten Drops or more, every Morning, is good for Prevention. Also Nitrous and Iron Waters are of great Use, because they dilute the Blood. We likewise prescribe Clysters and other gentle Catharticks, as *Pil. de Succino*, with some Grains of Magistery of Jalap, or Wine medicated with Specificicks.

I know by Experience, that the Juice of Chervil took in Broth, is a Specific in this Distemper. Also its Water thrice rectified may be given often. And likewise a Water distilled out of the Brains of Sparrows and a Calf, is found to be commodious.

If the Distemper arise from febrile Reliques, and a Scorbatic Dyscrasy of the Blood, these Things are to be corrected and amended by divers Antiscorbuticks, of which we discourse more at

large elsewhere. But in the first place Venesection, in this Case, should be often repeated. If the Mischief arise from Obstruction of the *Menses* or Hemorrhoids, they are to be provoke^d; If from Poison, then we must encounter it either with Vomitories or Alexipharmacks; If from sailing in a Ship, riding on Horse-back, looking down from an high Place, these are all to be removed, and a Vomit to be given. Thus the honourable Boyle in his Experiments concerning Colours, says, he successfully cured a *Vertigo* got by being toss'd on the Sea, by an Emetic Potion; as likewise did *Segerus*, in *Ephem. Germ. An. 3*. If it proceed from being drunk, it will go off on its own accord, but for the future let the Sick Person beware of such Excess. The following little Bag is to be held to the Nose.

Take of the Powder of the Root of *Doronicum*, Florentine Orrice, of the Flowers of Lavender, *Lignum Rhodium* of each an equal Quantity, Spirit of Lily of the Vallies one Scruple. Mix them, and make a little Bag.

Vesicatories, Frictions, Baths, Arteriotomy, Cupping-Glasses, Leeches, Scarrification, and other Things of this Nature are not to be neglected. When the Fit is violent and comes often, and does not give Way to usual Remedies, that the Patient may not be in Danger of his Life, we principally commend the Infusion of the Liquors of volatil Salts, and such other Things as the Case requires, according to the Advice of the worthy *Ertmullerus*, especially if it comes from a malignant Impression made

on the Spirits and Mass of Blood. We have often known an actual Caustery, viz. burning the Top of the Head with *Moxa*, to have had good Success in a desperate Case. To the Nostrils and Top of the Head you must apply Epileptic Waters and Balsams; as Balsam of Rue, or the Apopleptic of Amber. Also the Top of the Head is to be anointed with several Oils. And you may externally in the Fit use this Receipt which follows.

Take of Water of Lily of the Val-
lies half an Ounce, Spirit of the
same one Drachm. Mix them,
and give it.

But seeing we are to treat more largely of these in the following Chapter, we neither have any Mind, nor is it convenient for us to insist any longer upon them, lest we be guilty of a tiresome Repetition, and of forestalling the curious Reader.

CHAP.

CHAP. IX.

Of an Epilepsy.

§. 1.

The Names and Definition.

TO be brief about the Names of an Epilepsy, we call it in English, *The Falling Sickness*, in Latin, *Morbus Caducus*, *Sacer*, *Comitialis*, *Lunaris*, *Sonticus*, *Herculeus* and *Herculanus*. And it is commonly defined to be, *A Convulsive Motion of all the Parts of the Body, especially of the Hands and Feet; not perpetual, but coming at certain intervals of time, with the hurt of the Senses both internal and external.* This Disease has its name from the most urgent Symptom, which troubles a man most in this Disease; for on whomsoever this Disease exercises its cruelty, it takes them on a sudden, and casts them down and lays them flat, as if they were Thunder-struck, and commonly deprives them of all Sense and Motion. There is also a trepidation of the Nerves, all the Parts quiver with a secret violence, the Limbs are contracted and drawn aside, there is a gnashing of the Teeth, and frothing at the Mouth, and that usually, when the Fit is at an end; There is oftentimes a shaking of the Head, and a terrible falling of the Body to the ground, sometimes

the Arms and Legs, as also the Neck and Back are stiff, or turned this way and that, with various distortions.

§. 2. *The Difference.*

THE Differences taken from the Causes, are by the common consent of Authors reckoned two. For either, (1.) It is taken from the place, when the Brain is affected Idiopathically, or is ill it self, which is, when the Fountain of the Disease has its place there; or, (2.) It is caused by the consent of other Parts both internal and external, to wit, of an ill affected Stomach, of which there are several Causes instanced in the German *Epemerides*, or of the Womb, Spleen, Intestines, Mesentery, Genitals, &c. Of the external, as of Ulcers, Wounds, Concussions, Inflammations, and Swellings. A Virtuoso observed how this Disease did thus arise from a hurt in the great Toe; so that a little spark kindled a great flame, and caused a true Earthquake in the Microcosm. Therefore the clastic Particles may well be blamed, which are perceived to ascend from these Parts, when they are pained, like a cool Air or Vapour, wherupon a man

man drops down in a sudden Convulsion.

A Sign of the Head's being primarily affected, is, when the Eyes are blinded and caliginous, the Head akes, with a heaviness and dulness of Sense and Mind, the Patients are troubled with turbulent Dreams, are taken suddenly; and; as if they had seen a *Gorgon's Head*, are struck dead in the twinkling of an eye. But when the Disease proceeds from the mouth of the Stomach, it may be known by this, that the Fit does invade them most, who have fasted a long time; and before the Disease seizes them, they find a Squeamishness, Gnawing, Decay of Appetite, Vomiting, Hiccough, and the Heart-burn.

But if the Disease take its rise from other Parts, suppose from the Spleen or Womb, you will find the proper Signs of each Part as it is affected, and so it will be, if the Disease be lodged about the Bladder or Liver. Thus, if it come from the Womb, Pain will be felt about that place, also Palpitation of the Heart, Difficulty of Breathing, &c. will show it. There is a sort of Epilepsy also, that arises from a strange, exotick ferment, lurking in the Tube of some Part or other, and communicated to the Brain, as in Anger, Burning Fevers, Phrenzy, Small Pox: For when ever the least effervescence is raised in subjects, disposed to this Disease; then it may very easily so happen, that a Fit of it may arise from the transmission of a depraved ferment to the Brain, which puts all the Parts of the Head (if I may so say) into a panick fear, and gives the Alarm: for are there not manifest conveyances, namely the Nerves, by which the vaint of the Poison

creeps into the Brain, and its rulers, the Animal Spirits? But if the Spleen be in fault, by reason of a vitiated ferment, or its own Corruption and Putrefaction, there are pains, heat and swellings in the left *Hypochondrium*; sometimes also the Scurvy, Cachexy, Melancholy, &c. are observed to accompany it; as, to my grief, I found it in a certain Illustrious Prince, whose untimely Death was much lamented. Nor must we forget Childrens Fits (concerning the Original and Cure whereof, I shall take another time to discourse) at the time of breeding their Teeth, which arises from a vellicarion of the third and seventh Conjugation of Nerves, and from Inflammation of the Gums. Like as, when they have Worms, they are also troubled with this same Disease, these being bred by their voracious eating of crude Meats, and bad Milk; which may easily be known, because when the Fit is over, they vomit Phlegm or curdled Milk; a thing to be lamented, that the poor Infants must bear the iniquity of their Mothers negligence, when she has omitted her duty. Nor can it be denied, if we go about to examine that case narrowly, That when Children die of Fits, it proceeds from a certain corruption of the Mother's Milk, whereby it is depraved and grows sowre in the Child's Stomach; which appears plain enough by the vomiting of curdled Milk, and the Excrements of the Belly grown porraceous and knotty by an acid, whence proceeds the contraction of the Nerves, and the elastick Particles are elevated to the origination of the Nerves, whence come these tragick convulsive Motions.

§. 3. Part affected.

Some say the Part affected is the Brain with its whole Substance, and so they think that the Part chiefly affected is contained within the Brain. Others are absolutely of Opinion, That it is only the Ventricles of the Brain; some, that it is the passages thereof. Some Physicians will have it the middle of the Brain; and several the outer, cortical Part of it. There are some that take the Fibres and Tendons for the primary Subject; others, who shoot wide of the mark, fly to an occult and specifick quality, the refuge of Ignorance; others to a *res Sævior*, or something Divine. Of which two last Opinions, he that will chuse one, makes only *Diomedes*'s and *Glaucus*'s exchange; and one may very well say of this Case, what *Plautus* says of Women: *You can never chuse a good one; one indeed is worse than another.* So *Quercetan* in *Terrad.* blames the Heart without a fault. Some do hold, That the porous, lax and spongy *Medulla* of the Brain is the Part principally affected. Many hold, the *Glandula pinealis* and the *Plexus Choroïdes*. Some few conjecture that the *Medulla oblongata* is the subject of this Disease. The *Helmontians* blame the irradiation of the Soul, that proceeds from the Stomach, and affects the Brain.

But in my opinion they come nearest the truth, who take the Brain and Nerves for the primary Subject, which is proved, First, by *Galen*'s Authority, who l. 3. de loc. affect. l. 7. says, *It is consensaneous to Reason, that this Disease should be in the Brain*, if I may be allowed to produce his Authority among Phy-

sicians, and sure I may, since, Secondly, we have most pregnant Reasons to second it, namely, because in this Disease we find the principal Functions to be hurt: for the *Cerebellum* is principally affected, where the Spirits chiefly do their offices, and to which the Spinal Marrow is immediately joyned, then this, as the most sensible Part, being irritated, the whole Brain is shaken, together with the Nerves and the whole Body, and both the principal and inferior Functions cease, a preternatural motion only remaining. To confirm which Opinion, I have an instance of a Soldier, who, as I was writing this, was wounded by his Comrade; for he received a Cut in his Skull, which hurt the *Meninges*, and shook his Brain, and he was often taken with an Epilepsy and a Vomiting till he died. Nor do we exclude the *dura Meninx*, or any other *Meninges* of the Brain, which line the sides of the Ventricles; nay, nor the more remote Membranes, that are without the Skull, by whose consent the Brain may be affected. Dr. *Willis* in his *Pathologia cerebri*, a Book that might be a grace to *Apoll*'s Library, accuses the peccant and depraved motion of the Animal Spirits, as is apparent from what follows, when we shall discourse of the Cause. And whereas he acknowledges the Animal Spirits for the Subject, yet he may easily be reconciled to our Opinion; for the solid membranous Parts are the Tongues and Interpreters of the Humors and Spirits in our Brain, and it is evident to sense, that convulsive Motions are made by means of the solid Parts; wherefore I do not deny that the Animal Spirits offend in motion, as appears from

his own very words, That an Epilepsy can never be, unless the Brain it self, or some Membrane of it, provoked by some irritation, perceive a spasmodic Corrugation and Crispation by means of the Membranes. There happened a strange Case to a Country-fellow in this Neighbourhood, who had his Skull so wounded and broken with a Huntsman's Knife, that some fragments of the *Cranium* were struck into the substance of the Brain, which the Surgeon successfully extracted by Trepanning, Eighteen days after the Wound was given, and (which is wonderful) though both the *Dura* and *Pia mater* were hurt, yet the Patient in a manner found no convulsive motions at all. I am here at a stand, what the reason should be, why an Epilepsy took not this man; which is an inseparable accident of such Persons? This, if my conjecture fail me not, was the reason, because these Membranes were cut at one blow; besides, the Animal Spirits were observed not to be very explosive in this subject; yet the Patient was not without a mist in his Eyes and a *Vertigo*, which are not wrong called, the Dawnings of this Disease.

§. 4. Signs.

NOW we will search the Signs, whereby we may know this Lion, as by his footsteps. They that are troubled with this Disease, feel a cold Air creep up along the hind-part of the Head to the crown, as a fore-runner of it; the Belly and *Præcordia* swell with wind, often rumble, some have their Faces pale first, others red; a disordered motion of the Tongue, aking and hea-

vinels of the Head, forgetfulness, sadness, and sickleness of Mind attend the Patients. Some have a darkness come over their bemisted Eyes, others on the contrary see Flashes, Sparks, Flies and Clouds. Then according to that of *Virgil*;

Fertur equis auriga, nec audit currus habenas.

The principal and leading Sign of a strong Epilepsy, is abundance of froth about the corners of ones mouth, just as if they were bedaubed with melted Wax, and lees of Oyl; I say of a strong one, for in a less degree of this Disease no froth appears, as being insufficient to strain out such an Excrement. Then when the Patient is deprived of his Senses, a sudden fall follows, with a violent concussion or quivering of the whole Body: sometimes before they fall, they run this way and the other, as, to my admiration, I observed in one that was Epileptick; then the poor Wretches Body is drawn awry, and agitated with divers motions; they thump and strike the wall and ground with their Head, Back, Arms and Legs; their Eyes also are turned in, sometimes their cheek is drawn to their Breast, sometimes to their Back; there is often also an involuntary effusion of Seed, now and then of the Ordure and Urine, that is, when these Muscles are convulse and loosened, being left of the Animal Spirits, and therefore not sufficiently intent upon their Functions, besides, they rattle in the Throat, and sometimes cry out aloud; but a weak and suppressed Voice does ofteneft concur, like People that are strangled, and the Patients are almost without Voice, because

because of the interception of the Animal Spirits ; they often loll out their Tongues like a thirsty Dog, and are in danger of biting it with their Teeth. Others have their Teeth so close set, that it is more of God's mercy, than humane help, that they are not choaked. The time when they come to themselves is dubious and various, they rise by their own strength, but as weary as Souldiers after a Battel ; a sobbing Breath and Head-ach are fore-runners of their coming out of the Fit.

§. 5. Cause.

THE manner of our Method tells us, we must inquire diligently into the Causes. The Divine Hippocrates and his disciple Galen will have the Cause of this Disease to be Phlegmarick and Melancholick Humors raising a disturbance in the Brain. Therefore according to their Judgments and *Hypothesis*, an Epilepsy is caused by abundance of a Melancholick and Phlegmatick Humor, nor do they exclude a bilious, because that sort of Humor has a Power in it to irritate the Brain, and consequently to produce an Epilepsy. And they believe, that from all these forementioned Humors, corrupt, poisonous and virulent Vapors do arise, which cause Obstructions in the Passages of the Brain, and by these means the passage of the Spirits is stopped, wherefore the Brain and Principle of the Nerves, that it may expel that which struggles with it, does contract it self, and forces out what is hurtful, be it a Vapor or Humor.

§. 6.

THE Chymists take another way, and among them the *Paracelsists* do in this Disease blame a volatil acid Spirit, as their Lord and Master does, and they are tooth and nail for this Opinion. Sometimes he calls this Disease an acid Spirit, wherefore, Dictator like, he ranks it in the Catalogue of Mercurial Diseases ; sometimes he thinks, that this Disease is astral, spiritual, invincible, from connate Principles, and especially from their tinctures and impressions exalted. The same Author in another place affirms, That the matter of an Epilepsy is a stupefactive biting Sulphur, residing in the Microcosm, which hurts the Brain like smoak, when an Ebullition is raised by the Stars.

§. 7.

OUR *Methodus* dissents from both, and seems to approach nearer the shrine of Truth, through the thickets of jarring Opinions and Reasons on either hand ; that is, he makes the Cause of the Mischief to consist in heterogeneous and explosive Nitro-sulphureous Particles, which being kindled like Gun-Powder, are communicated to the Brain by the Animal Spirits, whence proceed these convulsive motions ; for the Animal Spirits do start out too impetuously, and like a head-strong Horse, when spurred, break their Bridle, and draw and rear the containing Parts, like a Chariot behind them in a perverse and outrageous motion.

§. 8.

Helmont, who often Paracelsizes, ascribes the rise of this Disease to the Stomach, and thinks it arises from the lower Parts, by which *Archæus* of ours he reckons the Spirits are made waspish, whence proceeds the Epilepsy, in which often an insensitive, and (as he says) a mad Poison, that afflicts for a time, resides about the *Præcordia*.

§. 9.

Tschentus, who has gained a good repute among Physicians, blames the Acid, and he makes the thing more probable and likely, because these convulsive Motions are best cured by volatil Alcalies: And he has this further to say, That Gripes and æruginous Excrements are often attended with an Epilepsy, especially in Children.

§. 10.

Splivius, who treads in *Helmont's* footsteps, thinks that the true and adequate Cause of all Epilepsies is an acid volatil Spirit, in whatever Part it be bred and gathered, and carried thence to the Brain, which joyned with the Animal Spirits, severs and moves them impetuously, and further, from a kindly, continual, and orderly motion, subject to the empire of the Will, puts them into an impetuous and violent one. And he supports this Opinion, for that the Animal Spirits are of oily, sharp and watry Parts, which easily take fire, and being kindled all at once, may rush

upon the nervous System, and shake it.

§. 11.

Cartes, That subtil Silk-worm, who seems to have put out the Eyes of the old Philosophers, blames a depraved Blood, with a certain obstruction in the solid Parts, and therefore in the foursquare Particles, which, after what manner soever they are applied to the nervous kind, exert their power, and in the hooked Particles, which being once fastened to the nervous Fibres, cannot so easily be removed; thence these nervous Crispations and the Epilepsy have their rise, and thus he seeks the Cause only in the figure of the Particles. The Spirits (as he says) which pass through the *Glandula Pinealis* contribute most to voluntary motion, for because the *Glandula* has very many Arteries under it on every hand, since at every Pulse many Spirits are cast out and hit against the *Glandula*, and because it also has its Pores, therefore much of them pass through these Pores, which properly contribute to the voluntary determination of the Spirits, because since the *Glandula* receives some determination from the Soul, the Pores of the *Glandula* also require another aspect, wherefore the Spirits, which are moved through its Pores, are also moved to another Part of the Brain, and when the Spirits placed in *æquilibrio* (or in a Poise) in the Ventricles, are thrust out by these Spirits, they are determined to some Part. But in this Disease the voluntary determination of the Spirits is taken away, because such abundance of Spirits fly violently in on every hand,

hand, and pass through the Pores of the *Glandula*, that the Soul cannot at all hinder these Motions, but only plays the Spectator in the Tragedy, and stands amazed and stoned.

§. 12.

I, If I might be *Palamon*, would either say,

Non nostrum inter vos tantas componere lites:

or (the first intimation of which Opinion I owe to *Willis*) I should guess that the Cause laid in a bad *Lympha* or sort of *Serum*, which by its nitro-sulphureous or bilious Particles, joyning themselves in company with the Animal Spirits, by corroding, irritating, and enraging the Spirits, makes them, whether they will or no, part asunder, & like fired Gun-Powder, *Aurum fulminans*, or *Pulvis tonitrualis*, or like a glass drop exerting its elastick Faculty, rush violently upon the Nerve, even to the Membranes and Brain it self; and hereupon the Animal Spirits, being made rebellious, become the Authors of so many horrible Symptoms, which tumultuary Motion of the Animal Spirits *Willis* has rightly called *Explosive*: For it is nothing else that produces an Epilepsy, but the violent and impetuous Explosion of some Particles, that reside in the Blood and Animal Spirits, whence proceeds that great provocation of the Membranes of the Brain, and that disturbance or violent commotion of the Animal Spirits. For these heterogeneous or elastick Particles being mixt with the Animal Spirits, are moved impetuously, whereby the

Animal Spirits being violently dilated, and moved disorderly, acquire such a determination, and so open the Pores of the Brain that they are discharged every way upon the Nerves. And that all these things may be done without sense or appetite, may easily be proved by Hydraulic and Pneumatick Engines, and thereby the Cause of this very bad Disease may be explained. For the Cause of an Epilepsy does not necessarily lie in the Head, but may arise somewhere else from a solid Part. Thus I have known it arise from a suppression of the *Menstrua*; wherefore it is probable that this Disease may be produced in the Womb or Testicles of a Woman, by corrupt Blood or Seed; for when the Blood is thicker than it should be, it causes Obstructions about the Womb, because when the Humors and Blood sticking there do stagnate, and a great part of them corrupted sticks in the Tubes of the Womb, they cannot circulate and return to the Heart by the Lymphatick Vessels; here, by their long tarrying, they take new Pores, are disturbed by their own internal Fermentation, or by some external Cause, as Anger, &c. and are forced out of their abodes through the Lymphatick Vessels to the Blood, they cause greater Fermentations than usual in the Blood, thence they are forced all over the Body with the greatest violence, and because the Blood is more actuated by this Fermentation, greater store of it is carried to the Brain, whereupon a most violent Tempest and Commotion arises in it; so that beside the Spirits, some portion of the Blood, which best corresponds to the Pores, is discharged into the Tubes of the Brain, which, since

It is not very thick cannot cause a total Obstruction in the Nerves; but because it is also thicker than the Animal Spirits, when it lights into the Pores of some Nerves, it obstructs them, hence it follows, because the Nerves are left destitute of Spirits by this Obstruction, and therefore hang flaccid, that the Patient sinks suddenly to the ground, and perceives it not.

A too great Effervescence of the Blood may also be the Cause of this Disease; for by this Effervescence the Humors are made frothy, which froth obstructs the Nerves on every hand, and hence proceeds the falling to the ground, and the abolition of sense. And because the Blood is hurried to the head in excessive violence and quantity, and Spirits are bred, which being moved with great violence in the Brain, seek every way to get out; so that where there is no great Obstruction, here and there they get through into the Nerves, and so make their way to the Limbs; whereupon, according to the diversity of the Part, into which the Spirits rush, divers convulsive Motions and various accidents arise: For if they repair to the salival Glands, they cast out slaver with some violence; hence it is that in some, abundance of froth comes out at the Mouth, inasmuch as the slaver is raised into bubbles by the Breath; but if the Spirits be carried to other Parts, as to the Stomach, Legs, Bladder, Arms, &c. then other Symptoms follow. The acrimony of the Animal Spirits, as we said before, contributes much to this convulsive Motion, because by their vellication they very much open the Nerves, Bile of it self will scarce (as many think) produce

an Epilepsy, because it is an Humor subtil enough, and therefore in passing through all Parts, at the most it will cause no more by its sharpness than a pricking Pain all over the Body; but it can scarce produce an Epilepsy; because always in a manner there must be some Obstruction in an Epilepsy, and Bile does seldom or never cause an Obstruction, that is, if it be pure, and not mixt with other Humors.

S. 13. *Prognostick.*

NOW, according to our manner of proceeding, let us briefly lay down what hope there may be of the Patient. Every Epilepsy indeed is full of Danger, and very difficult to Cure, because the Pores are made very lax by every Fit; so that at length they lie very open to the incursions of any heterogeneous Matter, as if a Path were made, and the Doors broke open. Yet one is more dangerous than another, and more difficult to Cure, especially if the Fits be frequent, for the reason aforesaid; sometimes this Disease afflicts a man so grievously, that the best Medicines will scarce save his life, tho no stone be left unturned to do it. Wherefore it may easily be inferred, that an Idiopathick one is more hazardous and difficult to cure than a Sympathetick; also the longer the Fit lasts, the worse the Disease must be reckoned to be, the Pores being violently dilated, and as it were hollowed by the frequent incursions of this Enemy. This cruel Disease uses often to afflict Children, because they have a moist Brain, and therefore wider Pores. The Disease also is usually long.

long, which unless it leave Boyes at the time of Pubescence, the solidity of the Pores of the Brain being daily encreased, and Girls at the coming of their *Menstrua*, which usually carry off the peccant *Lympha*, the poor Wretches turn this Sisyphæan Stone, till the day of their Death; for since great alterations are made at the time of Pubescence, if it is not cured about that time, it will hold them, as long as they live. This Disease is apt to return, because the Pores in the Brain are so made, that they will easily again transmit the peccant Humor. An inveterate Epilepsy is incurable; for when the Disease is of some years date, it is no more to be cured. And it is not so much the saying of *Seneca*, as of an Oracle, (which is applicable to this case) *The Physician has less to do, when he is called to the beginning of a Disease*: for in this state of affairs the Brain is corroded, and then the interstices of the Pores are insensibly pierced thorough. Also an hereditary Epilepsy, by reason of a disposition of the Pores in the Brain, vitiated by Nature, will give way to no Medicines, and is incurable, as also is a connate one. When it comes in Young men after Five and twenty, it lasts as long as they live, as *Hippocrates* *Sec. 5. Aph. 7.* shows, in these words, *They that have the falling Sickness before Pubescence, have a transmutation, for they that have it after Five and twenty they go to their Graves with it.* And as this Disease invades most in the Spring time, so at that time it is more dangerous and grievous. Again, when the whole Body is affected, and it comes suddenly, so that the Patient can apprehend no sense of the Mis-

chief in any Part of his Body, before it takes his Head, it is scarce curable. Also, if the Disease be very acute, have frequent Fits, and great Symptoms, it will quickly make an end of the Patient. It is not so bad, if the Disease be contracted from an ill Diet, and if it yield to slight Remedies; to this class belongs the Epilepsy of Maids and young Widows, which may easily be cured by Marriage. There is no harm, if a long Fever take an Epileptick Person, especially a Quartane; for it is a Sign, that the elastick and inflammable Particles are taken away by this change. Nor need it be much feared, when it happens at the coming out of the Small Pox or Measles: for when once the Effervescence of the Blood, stimulated by the *Lympha*, and so enraging the Animal Spirits, is abated, the Disease abates of it self. Oftentimes an Epilepsy is cured by loss of Seed, the peccant Matter being discharged by those passages; sometimes by sneezing, sometimes by Excretion of the Phlegmatick Humor, by the Nose, by Stool, Urine or Vomit. Sometimes it is cured by blindness and squinting, as the Curious have observed, because the *Lympha*, which is the Cause of the Calamity, coagulates, and gathers to the optick Nerves. This Disease oft ends in a Sweat, sometimes in an Itch. Some have observed this Disease to come upon unseasonable anointing with Mercury for the Itch, and the reason is, because this mad anointing violently drives abundance of the peccant Matter, that is in the Serum, to the upper Parts, and so to the Brain, as to a common shore: *Trincavella* confirms this by a twofold instance, of the Father and the Son.

Son. This Calamity also ends in a shrinking of the Hands and Feet, and also in loss of Speech.

The famous *Willis de Morb. Convulsiv. cap. 3.* observed an Epilepsy turn by a sad *Metamorphosis* into an incurable Stupidity and Melancholy. Practitioners write, how it has turned to the Palsy, and to other Diseases, whom you may consult. We must go about other work.

§. 14. Dietetic Cure.

THE Method for removing an Epilepsy is, by these sorts of Remedies. The manner of living must be such. The Air must be moderately hot, pure and dry, you must utterly avoid an impure, contagious, cloudy, and too cold an Air, as we have experienced in a certain Prince, who being otherwise subject to this Disease, did notwithstanding commit himself to an extreme Cold, upon which he was immediately seized with this Disease on his Journey, with such violence, that he forthwith died of it.

The Meat must be moderately hot, easie of Concoction, and of good Juice, Birds of the Mountain, Hens, Thrushes, and Hares are good; and that of *Martial* has place here,

Inter aves turdus, siquis me iudice certet,

Inter quadrupedes, gloria prima lepus.

Pidgeons, Lamb, Partridge and Capons are good, all which Food must be seasoned with Spice. The use of Capers is good.

Fish must be avoided, for according to the French Proverb, *Poi-*

sons fait poisson, i. e. Fish breeds Poison. All Pulse is put in the same Predicament, and also Garlick and Beans, of which the Greeks used to say, *ἴνα μὴ ᾔδῃσιν ἀνθρώποις μὴδὲ κύνεσσιν.* Shun sharp Mustard, Onions, (food for Smiths) Pork, Nuts. Some sorts of Meat also are reckoned to have a peculiar Faculty in breeding an Epilepsy, such as Kid, Goats Liver, Quails, Goose, Duck, Eels, Mushromes; and this very day, while I am writing this, I observed a Child taken away in a Fit of an Epilepsy, upon his eating stewed Cabbage. The same Calamity uses to befall Infants, when upon gussing too much Milk, and its turning sour and corrupting on the Stomach, Gripes, Convulsion and Death do certainly follow. So also all sugared and sweet things, contrary to the Opinion of the vulgar, are often the only Breeders of the Epilepsy, by reason of a hidden Acid. Therefore, by the way, Physicians do ill, who advise Sugar to gratifie Childrens Palates.

The Drink must be a watry, small Wine; not old, nor impregnated with Sulphur; but in this Disease especially men must abstain from Drunkenness. For at *Limburgh*, where I first began to practise Physick some years ago, a Woman, who had a double Tertian, drank off a Quart of strong Wine, to satisfy her extreme thirst, without the By-standers knowledge, upon which the poor Woman was taken with a Fit of the Falling Sickness; yet I perfectly recovered her by Medicines, which I shall hereafter mention.

Exercise of the Body will do good, if it be not presently after Meat, nor in a bilious cacochymick Body,

Body, left by these means the mass of Blood be troubled, and the morbid Ferments, that lie under the Ashes, break forth to the Head, whereupon the elastick Particles are excited, from which Convulsive or Epileptick Motions use to arise. Frictions of the Head must be seldom used, and the use of Venus must be moderate.

Sleep and Watching must be moderate. The Patient must take heed of Sleep, the Brother of Death, especially on the Day time, and immoderate in the Night. And he must not be so bold, as to sleep in the Moon-shine.

The Excrements of the Belly must be discharged every day either by Nature, or Art. Retention of the Seed, *Menses*, Hemorrhoids, &c. is bad; because Taints easily arise from thence.

Perturbations of Mind; for instance, Anger, Terror, Fear, Sadness, Care, have a great Power to cause an Epilepsy. Which is confirmed by Helmont's Observation, *Lib. de Morb. Arch. §. 18.* that an Epilepsy laid quiet for some Months and Years, and never rose, unless through Anger, Sadness, Venus, Child-bearing, &c. can you not without conjuring, tell that these, and such things as these, may well raise taints? Therefore all violent Passions of the Mind, unless one be willing to provoke an Enemy, must be avoided; for these Passions, like Stars, are very apt to alter the microcosmick Body.

§. 15.

Which things premised, now we will make our approaches nearer, and break in upon the Enemy by main force of Medicine:

And it appears, that the Ancients used one sort of Engines and the Moderns another. This was the Ancient's course, they cured the Disease with the following Medicines. If preternatural viscid, glutinous and tough Humors, or salt and sharp ones abounded, they used Preparatives, *i. e.* Oxymer of Squills, Syrup of Apples, Decoctions of Betony, Hyssop, Marjoram, Bawm, Root and Seed of Peony, Seed of Fennil, Anise, Water of Betony, Peony, Hyssop, Primrose, Sage, Buglose.

Their Evacuators and Lenitives were these following, *Pilula electrica, Aurea, sine quibus esseno, Marrocossina, Aloëphangina, Cochia, Færtida*, Stewed Prunes, Cream of Tartar, &c. Those were their Evacuators, these their Averters, Clysters of Roots of Peony, Birthwort, *Asarum*, Mallow, Leaves of Rue, lesser Centaury, Betony, Mercury, Flowers of Chamomil, Penniroyal, Poley Mountain, Senna of Alexandria, to these Decoctions they add lenitive Electuary, *hiera Logadii*, half an Ounce, Oyl of Rue, &c.

In this Catalogue they rank Suppositories and Apophlegmatisms of Seeds of Peony, and Root of Pelitory of Spain, Masticatories of Staves-acre, Raisins, Mastich, Nutmeg, Castor, &c. and *nasalia* of Juice of Peony Root, Rue and Betony.

And Gargarisms of Wine and Vinegar, in which Flowers of French Lavender, Leaves of wild Marjoram, Hyssop, Betony, &c. may be boyled,

Also Sternutatories of Pepper, Hellebore, Castor, Peony-Root, Marjoram, Flowers of Lily convall, &c. They are likewise for applying of Cupping-glasses to the Shoulder

Shoulder Blades and the *Hypochondria*, and to the Hams or Ankles; if the Disease come by consent, to the hind Part of the Head, but especially to the extreme Parts: also Plasters of Mithridate or Treacle.

They thought that Ligatures did much good, when the Patient feels a hurtful Air creep up to his Head, by stopping its passage. that so the imminent Fit may either be quite prevented, or if that cannot be, that it may at least be milder. But this sort of Remedy does more good in a remiss degree of this Disease, than in a strong one.

They ordered rubbing of the whole Body from the upper Parts downwards. They opened the Hemorrhoids with Leeches; they also set them to the Forehead or some other convenient places, whereby the peccant matter was exhausted.

They applied Rubificants to the Neck and other Parts, to hinder the poisonous Vapor from getting up: And they made such sort of Medicines of Mustard, *Cantharides*, *Euphorbium*, strong Vinegar and Leven

They were so bold, as to apply Cauteries to the hind Part of the Head, which were otherwise dangerous.

Medicines to strengthen, and to waste the remaining Matter, and to amend the intemperature of the Brain, are Treacle, Mithridate, Conserve of Rosemary, *Acorn*, Sage, Water of Linden Flowers, Powder of Ivory, Hartshorn, Mistletoe of the Oak, &c. which must not be used only twice, or thrice, or four times, but very often. Among these we may reckon Man's Bones burnt, Alces Hoof, *Assa fetida*, Electampane, Root and Seed of

Peony, Humane Skull, of a Man for a Man, and of a Woman for a Woman, by the daily use of which this Disease was thought to be cured in some People; the Bladder of a Boar with the Urine, taken out while it is hot, and dried in an Oven, till it may be reduced to Powder, was counted an excellent Medicine by the Ancients, Decoctions of *Sarsaparilla*, Guajacum, &c. are not to be neglected.

Among Externals they used *Oleum Philosophorum*, Oynment made of Oyl of Rue, *Euphorbium*, and Oyl of Fox. They also highly commended Bathing.

§. 16.

Hitherto we have given a slight Delineation of the old Method of Cure. Now follows the Chymical Method. And whereas the *Paracelsists* say, That this Disease is Astral, Occult, Malignant, Lunar, Mercurial, and Vitriolate, they subjoin a Cure according to these their Principles. For since the Disease is Astral, the Influence of the Stars must not be neglected; but it intimates to us, that we should observe them, both in the Digging, Preparation, and Administration of Remedies. And therefore under a certain Aspect of the Stars they make and give the green or blew Liquor of *Luna*. For they call the Moon the external Brain, and likewise they call the internal Brain the Moon.

Paracelsus also refers hitherto Emeralds, Jacynths, Granates, Jaspers, Rubies, and their true tinctures, Coral and Pearl.

He also commends his *Aquila Celestis*, and his *dulcedo* or *manna Mercurii*, because it preserves the Micro-

crocosmick Mercury in its natural liquability. So likewise Spirit of Vitriol, the volatility and sweetness of sweet Wine, are reckoned the true Alexipharmacks of this Disease. Hither also belong Tartar, Sulphur, Antimoniates, Camphore, Oyl of Soot, Water of Linden Flowers or of Lily convall do greatly subdue the Falling Sicknes.

To say nothing now of *Paracelsus* his Essence of Man's Brain and Skull, made with the rectified Spirit of Wine and Sage, which because of its consistency he calls *Galreda*; or a Magistery made with Spirit of Vitriol. Also Essence of Man's Blood, and Mummy are reckoned of great Virtue.

§. 17.

Helmont affirms upon his own Experience, that the injury of the Disease has been often removed by the volatil Salt of the Microcosm. And he ascribes the same success to the use of Cephalick Vegetables and other Specificks. He says also that an Elk's hoof rubbed on the Head; and hung about the Neck keeps it away; yet it looses its virtue by using, so that it cannot be applied afterwards with any success.

§. 18.

Now we will see what *Willis* his Cure is, and we shall find, that he differs from the common Method of Cure: for he will scarce admit of general Evacuation, that is, of strong Purges and Bleeding, nor of Sneezers, high Cordials, Cupping nor Scarifying, because of their notorious kindling and explosion of the Animal Spirits, and irri-

tation of the Nerves and Fibres. On the contrary, he commends all things that fix the enraged and volatil Animal Spirits, and that suppress their explosive Motions, when begun; which effect he promises to himself from Medicines endued with a volatil and ammoniack Salt, or with a vitriolick Sulphur, such as are Salt, and Oyl of Amber, Spirit of Man's Blood, or of any other Animal, Spirit of Hartshorn, Soot, tincture of Castor, a few drops either taken inwardly in a proper Vehicle, or held to the Nose: for he says, these things, as surely give relief, as the Gospel is true. He also makes use of Frictions all over the Body, by means whereof the Animal Spirits are gently diverted from going into Explosions, and are hindered as it were by f. tters.

He thinks also that *Secrets and Arcana*, which they call Specificks, should not be omitted in this case, and for a very good reason, because it is the Nature of them by strengthening the Brain, and contracting its Pores, to hinder the concurrence of the throaging Spirits, and so they fix the Spirits that are in the midst of the Brain. For all Antiepilepticks, as Peony, Mistletoe, Linden Flowers, Lily Convall, &c. have an astringent Faculty, whereby they straiten and close up the over-lax and open Pores of the Brain; and so stop the passage of the morbidick Matter that causes the disturbance.

The Medicines that he takes from Minerals and Animals are Man's Skull, any Blood, Amber, Coral, and volatil Salts.

And whether it be a Child or a grown Person, that is taken, if he suspect store of acid Phlegm in the Stomach;

Stomach, he gives a Vomit for several Months, four days before the Full Moon, namely, Wine of Squills, mixt with Oyl of Sweet Almonds, or *Sal vitrioli album*, or *tartarum emericum*. Then in an excessive fullness of Blood he orders a little Blood to be taken from the Arm, and, when there is absolute Necessity, he gives this or some such like Purge.

Take of Refine of Jalap half a Scruple, *Mercurius dulcis* fifteen Grains, Castor three Grains, Conserve of Peony Flowers one Drachm. Make a *Bolus*; or give them in form of Pills.

These are the stout tried Medicines: the following; which they call Empirical, are like fresh-water Soldiers, who sometimes show no great Valor in the Victory, but overtake the Enemy in a panick fear when others have routed him, that is, the Livers of Frogs, Bryony Root, Powder of a Cuckow, Hare's Rennet, and Lungs, a Wolf's Liver, Stones taken out of Swallows, Kite's Liver, Crow's Eggs, &c.

Take these upon the Author's credit, namely, Amulets of Peony Root, Elk's Hoof, Man's Skull, Mistletoe of the Oak, Peony Seeds hung about one; but their virtue is more operative in the Stomach, than hung about the Neck. He thinks an Amulet of an Elder branch found growing on a Willow is of great virtue, and he glories, that he has often cured with that Remedy.

Externally also he uses Oyl of Amber, to anoint the Nostrils, &c. which you may see in himself. But I cannot omit that the aforesaid *Willis* has put into the class of pre-

sent Remedies Diaphoreticks, Salivaters, Baths and Spaws, to which he advises his Patients to fly, as to their last refuge.

§. 19.

Sylbius his Opinion is, That such things are very good, as fix the acid volatil Spirit, which disperses and disturbs the Animal Spirits, that is, lixivial Salts, either fixt or volatil, but then they must be fixing: for, he thinks, that Medicines consisting of a fixing and volatil Salt are good in an Epilepsy; therefore he prescribes Rue, Poley Mountain, Roots and Seeds of Peony, Valerian, Toothwort, Flowers of Lilly convall, Linden Tree, and all things that abound with a volatil Salt, Squill, which manifests its volatil Salt by its Acrimony, Mistletoe of the Oak, Hazle wood, Box, Spirit of Tartar, Spirit and volatil Salt of Man's Skull, Hartshorn. Among fixing Salts he reckons Elk's Hoof, Hare's Rennet, Peacock's Dung, a Boar's Bladder and Urine dried in the Oven. He takes particular notice of Castor, which consists of a volatil Salt, as an excellent Antepileptick, also of Coral, Amber, Precious Stones, Native Cinnabar, which *crato* calls the Load-Stone; all which things have an admirable Faculty of fixing the acid Spirit.

He denies, that Bleeding, Vomiting, Purging, Diureticks and Sudorificks are good of themselves; but he highly commends upon Experience Frictions, Issues and Salivation. Among Externals he orders spirituous and sharp things, that is, things cadued with a lixivious volatil Salt, and that fix the acid Spirit, to be held to the Nose;

Nose; such as Spirit of Sal Armoniac, Soot, &c.

§. 20.

THE Cartesians think they have done the work, if they can but smooth the acute and angular Particles; and this they endeavour to do by *Pulvis Marchionis de Gemmis*, Decoctions of Woods, and other specifick Cephalicks, which we mentioned before. Also *Trochisci Caelestis* is good for the same purpose, which is made at *Hanover*, and is an experienced Medicine; a few Grains of it may be given.

§. 21.

Hitherto we have seen other men's Opinions about curing this Disease, now we will try what *we* our selves can do. It is evident from the Premises, that above all things the sharp serum must be ejected, since in it lies the source of all the Mischief, and from it arises the Explosion of the Animal Spirits, and their disorderly and perverse violence upon the Nerve; for whereas according to Nature they ought to flow in with a gentle and slow pace, they rush violently upon a Machin made up of small nervous Fibres, and cause a Contraction and Concussion. We ought therefore to drive out this Enemy by whatever Remedies we can find against its coming, or when it is come, by observing a due Method of Cure; which is performed ordinarily by three Indications, 1. Curatory, 2. Preservatory, and 3. Vital. 1. The Curatory respects the Disease itself, and the Fit, and it either quite hinders it from coming, or at least alleviates it,

2. The Preservatory respects the very seminal cinctures of the Disease, and the evacuating and altering the morbidick Causes and Impurities, or the morbid Ferments, by utterly extirpating the Disease with Universals and Particulars, and by preventing return of the Fit.

3. The Vital gives truce to the fortified Enemy, and does not expel it, till strength be recovered, and tries all means to recover the Patient's strength. The matter of the Remedies is taken from the threefold Fountain of Chirurgery, Pharmacy, and Diet.

When this sad eclipse of the Animal Faculty is coming, or come, the whole intention must be directed to the Cause and the Symptom. There is a twofold Symptom in this Disease, namely, a Cessation of the Animal Faculties, principal and sensitive, and a violent contraction. Therefore the Patient must be raised out of the Fit by loud shouting, pulling of his Limbs and Privities, and by rubbing the Neck and Back especially, with apopleck Spirits or coarse Cloaths, or by any proper means that opportunity may afford. Ligatures are good, and Clysters made with volatil Salts. Let the Mouth be wrenched open either by the Hand or by an Instrument, both that the Patient may breath more easily, and that the froth may run out of it, and also that he may not bite his Tongue. And the Mouth may be kept open either with Mistletoe, or Peony Root, or Elk's Hoof, or a little Bag filled with Masticatory and Epileptick Medicines. It is customary also to unbend the Thumb and Fingers for to break the violence of the Disease, and to put an Elk's Hoof into the hand.

The

The Head and Breast should be kept upright, that they beat not against the ground. Some advise the anointing of the contracted Parts with warm Oyl; but I should rather use spirituous Aromaticks, especially Spirit of Scurvy-grass, by which I can affirm, I have often given chase to the Enemy. Bruise a little Rue also between your Fingers, and put it into the Nostrils, so you may apply Poley Mountain; and other volatil Salts may be applied to the Nose, which will serve to shorten the Fit. As for the noble virtues of Rue, *Sylvius* tells us that both the Garden and wild Rue abound with a sharp, biting, volatil Salt, which is a proper corrector of an acid Spirit.

You may pour in Epileptick Waters, that is, *Hirundinum cum castoreo, picarum*, of Lily convall, tincture of Castor, volatil Spirit of Sal Ammoniack, Soot, Urine, Hartshorn, *Convulsivus Waldschmidtii, balsamus nervinus Scheseri*.

The Patient may be raised by *Wedelius* his *Exporiston*, that is white Vitriol in Water of Lily Convall or Marjoram, with a little Castor and Amber, or by sneezing Powder, which every one knows. Cephalick Balsams may be applied to the Nose, namely Balsam of Marjoram, Amber, Rue; among these we may reckon Spirit of Sal Ammoniack and an urinous one; for instance,

Take of Spirit of Sal Ammoniack,
Hartshorn each half a Drachm.
Mix them. Or,
Take of Oyl of Castor two Drops,
Balsamus vite, of Rue, Oyl of
Amber each what is sufficient.
Mix them.

But if the Disease come by con-

sent of the Stomach, and if squeamishness, and other signs of an afflicted Stomach have gone before, a Vomit may be given either the old way, of *Electuarium Diasari*, &c. or, which is better, the new way, of *Tartarum emeticum* from two Grains to four, mixt with some proper Liquor; for when the viscid acid residing in the Stomach is evacuated, the Disease is gone immediately, which I have experienced in Children with good Success, when the Milk has upon some account or other been turned into an eruginous or green colour. These things must be done; but in the Fit one thing must be omitted, that is, Bleeding, otherwise the enraged Soul would fly out at the passage, unless one would draw a little and give the Patient a drop or two of his own Blood in some proper Water; yet if there were a *Plethora*, I should not scruple to bleed in the Forehead or under the Tongue. If the Fit last long, or come at short intervals, sharp, stimulating and strong Clysters may be given at the time of remission. If this Disease come in Women from consent with the Womb, burn stinking things, that is Feathers of Peacocks, and Partridge, Leather, and other trash, in inventing of which, it would make a Philosopher smile to hear, what the Madness of good Women and old Women does contrive. That which is something to the purpose, is, *Assa fetida* and Castor tied up in a Rag, and held to the Nose; and volatil Spirit of Sal Ammoniack is altogether as effectual. When the Fit comes from the Obstruction of the *Menses* or Child-bed Purgations, we give a Clyster of hysterical things, and bleed in the Foot, and then for

for precipitating and throwing off the Epileptick ferment, we advise a Physick Wine made of Anti-epilepticks, Purgatives, and Hystericks, to be used out of the Fit. In the Fit we use stinking things, which quiet the enraged Animal Spirits. If sweet scented things be used either inwardly or outwardly, the Fit is not only encreased, but hastened. In this case these Specificks are proper, Amber, Mother of Pearl, and all things that contain much *Alkali* in them, which are good to soak up that exotick acid; it is also proper to give *Elixir Proprietatis*, with Essence of Castor and Myrrh about the Quarters of the Moon, because at that time the strange Particles in the Blood and Serum are apt to ferment. And now we have done with the Curatory Indication, we will proceed to the Preservatory, where we must take especial notice, that if the Cause of the Disease lie in any one certain Part, beside other things, Cuppings, Ligatures, Cauteries, both actual and potential, Serons, Issues, Blisters and Leeches are proper. Some commend Cauteries, others condemn them? I dare conclude nothing, because I have not experienced them; only by burning the Crown of the Head with Indian *Moxa*, I happily cured one of Sixteen years of Age. I cannot tell what to say of the Custom in *Lybia*, where the People burn the Crowns of their Childrens Heads with sappy Wood, when they are four years old to preserve them from the Epilepsy. The same thing is at this very day in use at *Florence*, and they defend their Practice by this reason, because of two Evils, in all Wise mens Opinions, the less is to be chosen; so that it is better to

try any means, than to leave a poor Creature to such a torture; and here the Aphorism holds good, *What Medicines cannot cure, Fire Cures.*

Instead of an actual Cautey, a potential one made of *Cantharides*, Leven and Vinegar may be applied to the coronal Suture; for it is most certain, that when a passage is thus made, the elastick Particles get out. In Children Blisters may be raised in their Necks, and pricked with a Needle, and suffered to run a Month or longer.

Some also use the Trepan for the same purpose, without any hazard; concerning which see *Severinus*. Arteriotomy has likewise often been performed with good success.

We have seen the Chirurgick Remedies, now we will proceed to the Pharmaceutick. And in the first rank we meet with volatill Alkalies, also earthy things, which soak up the vitious acid. Next comes a twofold Sulphur of Antimony, good to stop Epileptick Fits, made either without or mixt and sublimed with Mercury; but that is best which is precipitated a certain way from the *Scoria* the last times. The Dose may be, if there be occasion, one Grain; and for strong Constitutions, two; it prevents as well as stops Fits, and carries off the Cause of the Disease by Vomit, if it be found in the first ways; you may give it to little Children, and repeat it without danger. It must always be given with *Mercurius dulcis* before the new Moon for prevention; and several times repeated out of the Fit it is good to extirpate the malignant Ferment. And by a gentle Breathing it quiets this Disease, as the Learned *Estmullet* experien-

ced in his *Valetudinarium infantile*.

Among these we reckon earthly things, such as the Skull of a Man, who died a violent Death, red Coral, Bezoar, oriental and occidental, Sea Unicorn, and the Fossil: for all these things soak up the acid that trouble the Nerves, and so make the Disease either more tolerable, or else sometimes quite remove it. In this class we rank Minerals, and in the first place native Hungarian Cinnabar, shining like Crystal, and Antimoniates, (as good as that) the use of which I would earnestly recommend to all young Practitioners. Here is a Prescription;

Take of choice native Cinnabar two Scruples, *Pulvis bezoarticus Sennerti* one Scruple, *Bezoarticum solare*, *Magisterium cornu Aleis* each half a Scruple. Mix them. Make a Powder for several times taking. Or,

Take of native Cinnabar half a Drachm, or Cinnabar of Antimony one Scruple, volatil Salt of Hartshorn, of Man's Blood each half a Scruple, *Laudanum opiatum* one Grain. Mix them for several times taking.

Or the Epileptick, Cephalick Powder following, which is attributed to the Emperor *Rudolphus*.

Take of Cinnabar of Antimony half an Ounce, Unicorn two Ounces, Hartshorn, Mistletoe of the Oak each one Drachm, *terra sigillata*, Man's Skull prepared; Pearl prepared, each fifteen Grains, Emerald, Cinnamon, Saffron, each half a Scruple. Mix them, and make a fine Powder.

The virtue of this Powder against this Disease is praise worthy, as is plain from its *basis*, Cinnabar of Antimony, which *Crato* commends for strengthening the Nerves, and composing the Animal Spirits. And almost all the Cephalick and Epileptick Powders of the most famous Physicians consist of this *basis*.

Take of *Specificum cephalicum Hartm. Quercet. Michael. or Waldschmid.* one Drachm, *Magistery of Man's Skull*, *facula of Peony* each one Drachm, *Theriacale celestis Hanovienfis* five Grains, *Eleosaccharum succini* six Grains. Mix them, Make a Powder for use.

This following is *Michael's* famous Cephalick;

Take of native Armenian Cinnabar rectified by six Sublimations or more, or of Cinnabar of Antimony, as often rectified three Ounces, *facula of Peony Root* one Ounce and an half, *Magisterium Epilepticum* half an Ounce, *Cordiale* two Ounces, one leaf of Gold. Mix them. Make a specificck Cephalick.

The *Magisterium Epilepticum*;

Take of Elk's hoof, Man's Skull who died of a violent Death, Elk's horn, Hartshorn each one Ounce, true oriental Emerald half an Ounce, true Unicorn two Drachms. Powder them, and pour to them a *Menstruum* prepared of Salt and Alum, what is sufficient, dissolve them, and precipitate the Solution with Spirit of Vitriol, sweeten the Precipitate, and add of *Magistery of Amber* one Drachm.

The

The *Magisterium Cordiale*;

Take of Oriental Pearl prepared half an Ounce, red Coral, Stone of Perch each one Ounce, Shavings of Ivory, Hartshorn each six Drachms. When they are Powdered dissolve them in the foresaid *Mentruum*, and precipitate them with Spirit of Vitriol, than sweeten them. Of these two *Specificum Cephalicum* is made.

Theriaca celestis Hartovienfis is highly commended and approved by Experience. So is *Pulus epilepticus infantilis Ludovicianus* with *Opium*, as also *Panacea Vitrioli*. I must also commend that Anti-epileptick *Arcanum*, which *Bartholinus* mentions in the *acta Hassnienfis* Vol. 5. Pag. 73. and which I have experienced several times.

Take of Man's Skull, Peony seeds each ten Grains, white Amber seven Grains, Gold prepared two Grains, Pearl prepared, Coral each five Grains, Bark of Elder growing on a Willow ten Grains, Castor three Grains, Powder of Marygolds nine Grains. Mix them, make a fine Powder to be given in Lavender water. Or,

Take of volatil Salt of Amber, Man's Skull each one Scruple, Castor two Drachms, infuse them in a sufficient quantity of Spirit of Wine, let them digest and circulate. Make an epileptick Tincture. The Dose is twenty Drops. Or,

Take of Spirit of Sal Ammoniack, made with Quick-lime and Spirit of Wine half an Ounce, pour it upon Castor, and draw a Tincture, as before. Or in form of a Powder.

Take of Man's Skull prepared one Drachm, Cinnabar of Antimony half a Drachm, Castor fifteen Grains, volatil Salt of Hartshorn, Amber each half a Scruple. Make a Powder for several Doses, as there shall be occasion.

So also Opiates may be joyhed with these things, because they meekly pacifie the fierce and disorderd Animal Spirits, and keep them within their Station, which would undoubtedly, to use *Helmont's* word, make our *Archæum* mad. When it is accompanied with the Gripes, and Loosness with a hooping Cough, especially in Children, as it uses to do, the said Opiates are very convenient. In the Cure of an Hypochondriack Epilepsy, the Body must first be purged with the following Purge.

Take of *Mercurius dulcis* twelve Grains, Resin of Jalap six Grains, Man's Skull Philosophically prepared one Scruple, Tincture of Amber, Castor each five Grains, Conserve of Peony Flowers two Drachms. Mix them, make a Bolus. Or,

Take of Resin of Turbith, Agarick each six Grains, *Flores salis Ammoniaci Martialis* five Grains, volatil Salt of Amber two Grains, distilled Oyl of Majoram, two Drops. Mix them, make Pills.

Then the redounding Acid must be reduced to its natural state by *Vitriolum Martis*, our absorbing Salt, and *Zwelfer's* essential Salt mixt with Sugar-Candy; after Dinner and Supper also they must take some Powder of Carminative Seeds, with a little of Man's Skull scraped. But this we must take notice of, Thag

That if the Disease arise from any other Part & Cause, Anti-epileptick Specificks are not always proper, but things appropriate to the Part affected. Nor must we here forget Absorbents.

In a Scorbutick Epilepsy Spirit of Sal Ammoniack mixt with our Antiscorbutick Elixir exceeds all; and the following Powder is good.

Take of the Back-bone of a Viper prepared twenty five Grains, Ashes of a Mole calcined white half a Drachm, Man's Skull, Bezoar stone each twenty four Grains, Sugar of Pearl two Drachms. Mix them. Make a Powder. The Dose is as much as one can take up on the Point of a Knife in the following Vehicle.

Take of Water drawn off Brook-lime Juice. herb Mercury three Ounces. Mix them. Or,

Take of *Diafordium*, half an Ounce, Conserve of Groundpine two Ounces, Flowers of Linden-tree, Meadow Rue each one Handful, Shavings of Elk's Horn half an Ounce, Decoction of *Sassa Parilla*, Juice of Brook-lime each two Pounds, *Pulvis Spasmodicus* six Drachms. Destil them in glass Instruments, and add of the Tincture of Peony-root Bark two Drachms.

The Dose of this Water is a Spoonful at a time, whose virtue is to discuss the sharp Serum either by Sweat or Urine. Or,

Take of my Antiscorbutick Elixir two Drachms, my Epileptick Elixir one Drachm and an half, Mix them. Put it in a glass.

Give twenty Drops in some proper Water. In Hysterick convulsive Motions, whatever Medicines are given, they must have Castor in them.

I will impart a Powder, which I have had Experience of a thousand times, to the great comfort of Epileptick Persons. I call it the *fixing Dragon*.

Take of Nutmeg one Drachm and an half, Ashes of a Mole two Drachms, the Heel Bones of a Hare No. 3. Powder of *Carduus Benedictus* four scruples, Elks-hoof, white Amber, Mistletoe of the Oak each two Scruples, and an half, prepared Pearl one Drachm, burnt Harts-horn half a Drachm, true Unicorn one Scruple, Man's skull three Drachms, Peony seeds one Drachm and an half, Sugar-candy two ounces and two Drachms, Leaf Gold what you please. Mix them. Make a Powder. The Dose from half a Drachm to four or five Scruples.

Man's Blood rightly taken, fermented with as much rectified Spirit of Wine, yields a Spirit of a most grateful smell, which pierces and pricks the Tongue, and is an excellent Antispasmodick. The Dose is from fifteen to twenty drops in some proper Vehicle.

And now we must recount other things in general, which bring the Animal Spirits into order, comfort the Nerves, and often either mitigate or quite remove the convulsive Motion.

Take of *Willis* his cephalick Elixir, Spirit of Sal Ammoniack, Epileptick Spirit of Vitriol each half a Drachm. Mix them. The Dose twenty Drops. Tun-

Tincture of Coral, made with a little of our sweet calcined Nitre, and Spirit of Aniseeds, or only with the Oyl (which is better) will do good, because when it is made the latter way, it wants an acid *Mensstruum*. Some make a great stir with the tincture of *Luna*, but I am not of their mind; for since it has nothing in it but Vitriol, as appears by the blew colour, one may easily guess, it can be of no great virtue in this Disease. The *Primum ens* or Sap of the Linden-tree, drawn out of the Tree in *February*, if three Ounces of it be taken thrice a day, does wonders. I reveal this as a great Secret in this Disease, the Livers of Frogs taken in the Wain of the Moon, and dried in the Sun, which must be taken 1 Drachm at a time for several times in Powder. And I give you another, namely Earth-worms drowned in Rhenish wine and dried, and a Drachm of the Powder given about the New Moon for three Months; by which means, I successfully cured two Youths, fourteen years of Age. The Powder and Ashes of a burnt Mole is of the like Nature.

There lies likewise a singular anti-epileptick virtue in the dung of a Peacock, a Stork, a Lion and a Man, upon certain Experience. Some have a way of fermenting & volatilizing them, and so getting a Spirit which smells as well as Musk or Amber. *Enzefelius*, first Physician to the King of Poland, writes, how that King, when he had been miserably afflicted with an Epilepsy, was cured by his Wife's Secundine, after she had brought forth a Son, and valued it more than he did his Scepter. Some Quackish People cry up Box leaves to the Sky. But they do better, who in the beginning of the Fit give

the sharp, saline, volatil Liquor of Camphore, mixt with the Essence of *Opium*: for Opium combined with Camphore, and so strengthened by united forces, composes the raging Animal Spirits, and having pacified the Fit, causes a sweet sleep and a wholsom sweat. Among these saline Volatils, Amber or its volatil Salt, or Liquor, or Oyl shines in my Eyes, as the Moon among the lesser Stars. The Blood of an Ass, and of several other Creatures, as of a Cat, &c. taken from behind the Ear, and a few drops of it given, has helped many. Some cry up the Skull of a black Hen, others give the Bones of a Swines Head.

In Obstructions of the *Menses* all such things are good as put the Blood in motion; yet they must not be ever subtil, lest by their levity they rather get into the Head than the Womb, but heavy things, which follow the motion of the Blood downwards, and yet open Obstructions.

And for a Conclusion, to these general Internals we will add general Externals. And the principal are Spirit of Sal Ammoniac held to the Nose, Balsam of Rue, Amber, &c. Balsam of Amber is of excellent use, if the Pit of the Stomach or Navel be anointed with it. And the Crown of the Head may be anointed with Oyl of Amber, but with caution and sparingly, lest it beset you as it beset a Physician, who had anointed his Patient with it, and he complaining of a grievous Head-ach, ordered his Physician that when he was dead, he should open his Head, and upon opening it, the Physician found the *Dura* and *Pia mater*, and the substance of the Brain under them marked with a yellow spot the breadth of a Crown Piece, and as it were

sphacelated. It is safer therefore to use quilted Caps of cephalick Spices. And besides the aforesaid Balsom the following Liniment may be applied to the Navil.

Take of Bever's grease 2 Drachms,
Sal saturni one Drachm, Oyl of
Amber three Grains. Mix them.

And it will do well to chafe the Rick Bone with sweet scented Oyls, Apoplettick Waters, Spirit of Lily Convall, Ants, Hartshorn, &c. and sometimes to give four or five drops of the Gall of a young Whelp, and the Heart of a Mole dried.

Divers Plasters also may be made use of, namely *Emplastrum de betonica, cephalicum, epilepticum*, &c. and oily or sulphureous fumes which are sweet may be used. Also a Plaster of Wax and Oyl of St. John's-wort may be applied to the Pulses.

Amulets of an elder Sprig found on a Willow should not be neglected: nor Roots and Seeds of Peony, which Seeds of Peony extracted in some Liquor in Horse dung one kept as a Secret, wherewith he did Miracles. Elk's Hoof, and such things are now known to every one, and we have given you the Judgment of the Ancients concerning them. The hanging of the Root of Masterwort about the Neck is a new Invention. A live Lizard hung about the Neck does miraculously stop epileptick Fits, this I write upon my own Experience, and also Swallows cut open alive, and applied to the Crown of the Head. And the rect of these Remedies shall be brought up by Transplantation into Beasts, and indeed into a Bitch, as the German *Ephemerides*, Ann. 6. and 7. Obs. 11. do relate. And here we conclude this Disease.

CHAP.

CHAP. X.

Of an Apoplexy.

§. 1. *Names.*

WITH my Reader's good leave, I will premise in brief the *Synonyms* of an Apoplexy. It is called *Sideratio* or *Blasting*, *Morbis attonitus* or the *stony Disease*, *Resolutio nervorum*, and *Paralysis universalis*, an *universal Palsie*. *Paracelsus* calls it *Gutta*.

Description.

It is described to be (by universal consent) a sudden abolition of all the animal Actions, that is, of Sense and Motion, with the hurt of the principal Faculties, depending upon the hindrance of the Influence of the Animal Spirits; for the Patients are as it were struck with Thunder, without any sign of Reason remaining, although usually a dulness of Senses preceeds, and oftentimes their Brain is so weakened, that they become stupid in their Judgment. It is called *Attonitus*, because the Mind is stupid as well as the Body; therefore it may be concluded to be a very dangerous Disease, of which few recover, or if they do survive, yet they usually turn Paralytick. None will deny that an Apoplexy has great affinity with an Epilepsy, and agrees with

it in many things, only they differ in this, that an Apoplexy is more dangerous. There is the same affinity between an Apoplexy and Fits of the Mother, a Suffocative Catarrh, and a Lethargy.

Difference.

Yet it differs from these, because in an Apoplexy the Motion is quite abolished, and the Parts remain immoveable, which is not found in the other to such a degree, for they sooner cease and leave less harm behind them. An Apoplexy is judged to be twofold, Phlegmatick and Sanguine, as it arises from Phlegm or from extravasated or stagnating Blood.

§. 2. *Part affected.*

THE Ancients held the Part affected to be the Brains, that *Tower of Pallas*, wherein, besides the sensible and motive Functions of the Soul, the principal also are performed, and they thought that it was more especially in the Ventricles of the Brain, and they contend, That it is an impediment rather in the *rete mirabile*, than in the substance of the Brain for this reason, because of the sudden and

unexpected coming of an Apoplexy. Some of the Moderns take the Nerves and Animal Spirits for the Parts affected; others the whole Brain.

Helmont, that severe Cenfor of the Physick Schools, in his Tract *De sede Animæ* 1. 10. 12. makes it to be the *Præcordia*, and the left Ventricle of the Heart. *Paracelsus* owns the Brain, Lungs and Wind-Pipes for the subject of this Disease; from whom, his Disciple, *Quercetan* sometimes differs, and blames the Heart. *Willis* thinks the *Corpus callosum* in the *Cerebellum* is the seat of an Apoplexy, and that the Animal Spirits in the *Corpus callosum* are the subject of it. The *Cartesians* prove by reason, that here the Pores of the Brain are ill formed, and obstructed either by Phlegm or Blood distending or compressing the Arteries too much. The most experienced *Weffer* does not blame the great Ventricles, but the medullary substance of the Brain and *Cerebellum*. Others take the mass of Blood for the subject; but it were tedious to give all Mens Opinions and Reasons. Therefore, to pass by them, we acknowledge the whole Brain, as to its porous substance, for the Subject, but we do not question but the Disease resides in the *medulla oblongata* of the Brain, as in the principal subject, of which I shall say more in the Cause.

§. 3. Diagnostick.

NOW we must proceed to the Signs, by which this Disease shews it self. Head-ach coming suddenly, dulness of Apprehension, *Verrigo*, torpidness, drowsiness, chilliness in the extreme Parts, and the whole Body, mist before the Eyes,

grating of the Teeth in ones Sleep, abundance of Snivel and Spittle, &c. often go before an Apoplexy. Yet there is an Apoplexy (but it is most violent) which takes one suddenly, without any of these Signs forerunning. But the Signs of the Disease being present do immediately show themselves, for when Men are taken with it, they are deprived of Sense and Motion, and lie as if they were dead, they rattle in the Throat and breathe difficultly, they fall suddenly to the Ground, and often with a shriek, presently the difficulty of Breathing is so great, that one can scarce perceive Breath, the Patient lies as if he were strangled, and his Breast feels, as if it were tied down with a Cord, and hindered from heaving. All the animal Actions are taken away on a sudden. Respiration indeed remains, and is not quite abolished, because the Nerves, through which the Spirits often flow, are more open, and therefore not so apt to be obstructed. And the respiratory Nerves are very open, and can scarce be so obstructed, but some Pores will still remain open. Some froath at the Mouth, others bring up at their Nose whatever is taken in at the Mouth. The Urine is usually thick, moderate in quantity, of a chaff colour or ruginous, with a settling like meal. The Pulse is sometimes unequal, intermitting, great and languid, though sometimes it is swift. Their Eyes are shut, as if they slept, yet indeed they do not sleep, but lie dull and stupid as Stocks. And though they seem to look full on the By-standers, yet they neither see nor hear, nor do they feel, though they be burnt or pricked, so that not any sign of Knowledge or Understanding appears, the

Limbs

Limbs hang lank, and if they be lifted or set up, they fall down like a dead thing; they breathe with their Mouth open, and rattle in the Throat. And to be short, the Patient is like a dead man, only he is known to be just alive by his breath, which may be known by setting a Basin of Water upon his Breast, whereby the Ancients found the motion of the Breast, and by consequence some life remaining. But now Men go a nearer way to work; for the Breath may be found by holding fine carded Wool, a Feather or a Wax-candle lighted, to the Mouth, all which will move at the 1st Breath; or a pure Looking-glass, which will lose its gloss by it. Besides, some motion remains in the Stomach and Guts, though imperfect. And when men can scarce be perceived to breathe at all, we say they have a strong Apoplexy; but when they take some breath, though unequally and disorderly, yet the Patient is in more hopes: for when the Disease is milder, some sense is left, and now and then motion, but so stupid, that there is a kind of Palsy or Numbness remaining. They often falter in Speech, and the Tongue feels stiff: for motion and sense must need cease, when the Animal Spirits come not to those Parts.

§. 4. Cause.

Now having already examined the Signs, we will proceed to the Causes; and first give you other Mens state of the Case. The *Galenists* think, That the immediate Cause is the hindrance of the influx of Animal Spirits into the Nerves, by Humors and condensed Vapors, especially tough, thick

and cold Phlegm, because it obstructs the Ventricles of the Brain, the Original of the Nerves, and the Arteries and the *rete mirabile*, because, as they say, Spirits do in order of Nature flow through these into the Ventricles of the Brain, and therefore if these forementioned Vessels be filled and obstructed, then of necessity the Spirits and Animal Faculties are hindered from being diffused into the Organs of Sense and Motion, and so they mark out the Cause, why a Man is deprived of Sense and Motion. Among the more remote Causes, they reckon Crudities, drunken Debauches, long Watching, a cold Air, over-cold Food, nor do they except *Venus*; all which, as they say, are able to cause an Obstruction of the said Passages, and a dissipation of the Animal Spirits. So they are strongly of Opinion, that a fall or blow on the Head, do cause a Flux of Humors to the Brain, which if they fill the principal Ventricles of the Brain, cause an Apoplexy. In their Opinion some fall into an Apoplexy upon a slight Obstruction, which is caused now and then by thick Vapors, or by a few Humors got into the Ventricles of the Brain.

§. 5.

And upon this occasion I cannot forbear reprehending of *Galen*, a false Disciple of *Hippocrates*, who often wrests his Master's words to his own sense, and sometimes to one quite contrary, as appears in this case, and in several other, where he ascribes this impotency of Motion to the Obstruction of the Ventricles in the Brain, which *Hippocrates* will rather have attributed to the standing of the Blood.

Blood. For, says He, From its standing are extreme chinefs, Vertigo's, interception of the Voice, and in this Disease People are Epileptick and half Paralytick. And in another place, And while the Blood is not moved it cannot otherwise be, but that the Body must be quiet and stupid. We shall say more, when we deliver our own Judgment of the Cause.

§. 6.

NOW we must walk in the Hermetick Field, in which great variety offers it self. The Paracelsian Pathologists sometimes make the Cause to be a Cacochemical Mercury sublimate, sometimes a coagulation of the Mercury; and sometimes they say, that a Gutta, according to their Master's Doctrine, is bred of a Martial Poison; sometimes for want of the Synovia, because this Disease is nothing but a separation and defect of the Synovia in the Part; for, say they, a defect of the Synovia causes insensibility and a privation of Motion. But Paracelsus explains this Synovia of his so variously and intricately, that without an Oedipus, no one can apprehend, what he drives at, *Traët. de Gutta Cons. &c. l. 7. Param. c. 1. §. 4.* where he explains one difficulty by another that is greater. Some of the Hermetick Tribe accuse a Narcotick Salt and Sulphur, which fix the Animal Spirits, but who can recount all their Opinions? Yet all of them in a manner aim at this, That an Acid by coagulation causes all this Disturbance.

§. 7.

THAT severe Critick of the medical Schools, Jan Helmont, frames to himself strange Enemies, namely an Anodyne Poison, and an *Ens Poteſtativa*, for so he calls them, *Traët. de Morb. §. 9.* where he explains how an Apoplexy is bred. Therefore he means a certain Power which takes away Sense and Motion. Tachenius, Helmont's Scholar derives the remote Cause of this Disease from a coagulating Acid, or wild Gas drawn in extrinsically with the Air, which fixes the Spirits, and checks the Motion and Fermentation of the Blood.

§. 8.

SPIRITUS thinks, that the Proximate Cause, that is, the taking away of all the Animal Functions, depends upon the defect or disturbance of the Animal Spirits; and he holds, That the Animal Spirits may be made immoveable and torpid, and that they are deficient either by reason of the straitness or obstruction of some Nerves, or by reason of compression, arising either from Phlegm or an Acid, or because they are cut asunder. And he says, That the Cause of this Disease is, for that the Animal Spirits are not duly separated, through some fault in the Blood, that is, if the Blood be inept, coagulated or replete with a Narcotick Spirit. He also makes no question but the passage of the Spirits is quite intercepted, when the Arteries are broke by any Cause, or when the Spinal Marrow is any way preternaturally straitened. And there is more to this purpose, which I shall not now relate.

§. 9.

§. 9.

ANd now we will go to our mechanick Conceptions; for in natural Knowledge, as nothing spoils humane understanding more, than the abyſs of abſtracted Notions; ſo nothing helps it more than to ſet things mechanically before Mens Eyes. And this Cartes endeavours to do. He, therefore, and his followers think, That in this Diſeaſe there is a too great opening and dilatation of the Pores of the Brain, and the *Plexus Choroïdes*, whereby a total Obſtruction may eaſily ariſe in the Brain and Origination of the Nerves, by a foreign Humor flowing thither, which being made, the influx of the Animal Spirits, is ſtopt, and when that is hindred, all the Limbs grow flaccid, like dead mens, juſt as Sails, when they are not extended with wind, hang flapping. And the reaſon why reſpiration remains in ſome meaſure, they ſay, is, becauſe the Tubes that reach to the *Septum tranſverſum*, are larger than ordinary, wherefore while there is but little Spirits remaining, the paſſage to the Heart, the chief Muſcles, is the eaſier. Remotely they blame the Blood or thick *Lympha*, in as much as theſe being extravasated in great quantity in the Brain, may eaſily obſtruct the Pores and *Superficies*, but eſpecially the origination of the Nerves, by which Obſtruction the influx of the Animal Spirits is quite taken away, and an abolition of Motion and Senſe muſt neceſſarily follow. So they ſay, that an Apoplexy may alſo come from an external Cauſe, a Wound, Blow, a box on the Ear, or Conuulſion, for the ſoſaid Reaſons.

§. 10.

NOW we will give you our Own Opinion. And, to be plain, we take it to be an Acid, that kills the Spirits: for while it ſtops and coagulates the Blood the Motion of the Blood to the Brain is intercepted, and ſo conſequently the Motion of the Animal Spirits is hindred, which is the original of the Diſeaſe. And we are confirmed in this Opinion, becauſe we have opened ſome, who died of an Apoplexy, and we found Blood perfectly coagulated in the Veſſels; yea, we obſerved *polypi* in the Heart, and Concretions and Evacuations of Blood, but chiefly in the Brain. Wherefore moſt, not to ſay all, of us hold, That ſuch as die of Apoplexies, have Blood coagulated in the Veſſels, or extravasated in the Brain, which a couple of famous Anatomists, *Weſperus* and *Fraccaſſinus*, do confirm, who obſerve, That the Veſſels of the Lungs were burſt by the ſtoppage of the Motion of the Blood, and an Evacuation enſuing upon the Acrimony of the Acid. Which very thing I obſerved in a Citizen of ours, who, becauſe he was ſo Corpulent, and the Parts ſo fat, that they could not receive the Blood, fell firſt into a Palsy, and then died of an Apoplexy. Wherefore, as *Hippocrates* ſays, Fat men rarely arrive at many years: for it is certain that ſuch die ſooner than lean People; becauſe they are often expoſed (not to mention other Miſchiefs) to the Palsy, or to be ſtrangled on a ſudden. or to a mortal Apoplexy; as thoſe two inſtances in *Timæus* l. 6. c. 2. ſufficiently confirm. Therefore (to return to our buſineſs) Bleeding

Bleeding in all Ages is our chief and last refuge, which the great *Celsus* confirms, when he says, *Bleeding in an Apoplexy either Cures or Kills*. Secondly, The Brain is sometimes over-flowed and drowned by a viscid and crude Chyle, not rightly assimilated to the Blood, or by *serum* or Phlegm, that is, coagulated *serum*, if they stagnate. *Platerius* saw such an Apoplectick Woman, the substance of whose Brain, when opened, was dissolved like Cream, and ran down her Face. And from this Principle an Apoplexy must be either sanguine or pituitous, which distinction if neglected, the Physician must needs mistake. Thirdly, There is nothing more dangerous, than a foetid Narcotick Sulphur, which the Chymists call a *wild Gas*; this is drawn in with the Breath out of the Air, and fixes the Animal Spirits, and checks the Motion and Fermentation of the Blood. I could produce several things more; but let it suffice to tell you, That an Apoplexy may arise from a Blow, Compression of the origination of the Nerves, whatsoever causes it, from cutting the large Nerves asunder, from Fear, and such-like Causes.

S. II. Prognostick.

NOW we have explained the Causes of the Disease, it remains therefore that we spend some time in explaining the Prognostick Signs. For by means of the Prognostick a Physician is enabled to vindicate himself and his Art from the petulant Calumnies of the vulgar. First of all, it must be observed that Old Men are most subject to this Disease, as also they are, who are often overcome with deep

Sleep, who have a heaviness in their Head, an unusual laziness, and swollen Eyes, such as have often a darkness come over their Eyes, and such as have a slender Neck.

Now we may best measure the greatness of the Disease and its danger, by the greatness of the Breath, for in a violent Apoplexy the Breath is so far gone, that it can scarce be perceived; or it is with rattling in the Throat, like dying People; and breathing is reckoned the most necessary of all the Animal Functions; for when it is quite gone, Life is gone. Therefore let no Physician be so fool-hardy as to boast that he can Cure an Apoplexy, especially a strong one, nor let him despair presently, but try all things, which may clear a passage for the Animal Spirits, and let him not neglect his Patient. A milder and less degree of an Apoplexy may be cured, for I, and several others have cured such. Besides what I have said, we have these golden Sayings of the divine *Hippocrates*, to this purpose. *To cure a violent Apoplexy is indeed impossible, and to cure a slight one it is not easie. They that have their Brain gangrened, perish within three days; but if they outlive them, they recover.* And in another place, *A curable Apoplexy arising on a sudden, a slow Fever coming upon it, is mortal.* In a strong Apoplexy, when all the Animal Faculties are sunk, if the Patient rattle in the Throat continually, there can be no hope of a recovery. Amongst the Signs this is one, If in Apoplectick People Sweat break out upon straitness of Breath, it betokens Death at hand; on the contrary, If in such the Fever be violent, and not slow (of which before) it makes some Limb Paralytick.

If the Hemorrhoids happen to Apoplectic People it is a good Sign, but if Coldness and Numbness it is a bad one. According to *Avicen*, all bleeding at the Nose and Ears in Diseases of the Head, is curative and profitable. That difficulty of Breathing in a violent Apoplexy, with an unequal and intermitting Pulse, does presage present Death. *Hippocrates* teaches, Experience confirms, and Reason dictates: Because in such a Case the Enemy has got deeper rooting, and is therefore more hard to be expell'd.

Sometimes a Man relapses into an Apoplexy, or it seizes him after such a certain Time. The Reason of which is, because when the Vessels are once open, they cannot easily be re-closed, which sometimes occasions the Humor to be extravasated again.

A rattling and loud Respiration is often Mortal, but not always; for we found the contrary in one who was taken with a rattling and difficulty of Breathing a whole day together, and altho the Distemper turned into a Palsy of one Side, yet the Patient recovered; but so, as that he was suddenly taken off by the same Apoplexy in the Night-Time six Months after. The few recover in this Disease, yet those who do, commonly fall into a Disease of long Continuance, as a Palsy of one Side, and now and then of the whole Body. They often lose their Memory to that degree, that they cannot remember the least Thing, and grow mere Children again. Salivation often cures an Apoplexy, as we have seen an Apoplectic Woman, who for a Year and more, did every day spit more than half a Pound of Moisture, just like Infants breeding

Teeth, which when it ceased, she dy'd immediately.

In Winter when cold Winds blow, and the Skies are very cloudy, this Distemper is wont to be most violent, dividing and tearing asunder the Carotid and Cervical Arteries, from whence an incurable Apoplexy arises. The Case is the same if the Spinal Marrow be cut in two. It is commonly a Sign of Death, if by strong Sternutatories the Patient does neither sneeze, nor is sensible.

§. 12. Dietetic Cure.

Thus much of the *Prognostic*, now we pass to the *Dietetic Cure*, which consists in the six Non-Naturals.

Choose a hot and clear Air; on the contrary, avoid that which is rainy, cloudy, cold, &c.

The Meat must be hot, sparing, easie of Concoction, and which will be soon distributed, such as Chickens, Hens, Capons, and the like, especially Broths. With all their Meats let them use Aromatics, as Time, Rosemary, Marjoram, Sage, Hyssop, Grains of Paradise, Mace, &c.

The Drink, according to the Ancients, must be Mead, or rather, according to the Moderns, *Mosel* Wine, and in Germany *Michelback* Wine; in which may be infused *China-Root*, and it may be diluted with Spaw-Water, or with any other Cephalic Decoction. But let the Sick Person abstain from pure Wine, and that which is strong, especially Spirit of Wine, and other Opiates impregnated with a Narcotic Sulphur. For they that Drink too heartily of such Liquors, suffer for it by an Apoplexy.

Instead

Instead of *Exercise* let the extreme Parts be violently rub'd. Let Cupping-Glasses be applied to the Shoulders, and Urtications, or stinging with Nettles ordered. And let the Sick Persons be carried in a convenient hanging Bed, or in a Chariot.

Sleep and Watching must not exceed their due Bounds.

Let the *Belly* be kept Laxative, that the Enemy may be turned out.

As to the *Passions of the Mind*, let the Sick Person behave himself like a Man, and be free from the more grievous ones; as Anger, Sorrow or Fear, Fright, and the rest. And therefore let them that are prone to this Disease, most of all avoid any Blow upon the Head, or even any slight Stumble.

§. 13. *Pharmaceutic Cure.*

HAVING took a superficial View of the *Dietetic*, we now proceed to the *Pharmaceutic Cure*; and first according to the old *Galenists* Way, who lay the Blame either upon the Humors or too many Vapors, which they therefore endeavor to carry off with the following Evacuators. Such as are *Electuarium Indum mayus*, Trochiscs of *Agaric*, *Pilule sœtids*, *Cochiæ*, *de fumo terra*, *Arabica*, *de lapide Lazuli*, *Hiera picra Logadii*. They also preposterously advise Vomitories rather in the Progress of the Disease than in the Beginning, and as it were, ride backward. Sharp Clysters they use upon every Occasion. When the Sick Person is a little come to himself, and begins to speak and gets Strength, they use the foresaid Purgatives, beginning with the more gentle ones, as, supposé, Clysters.

But they scarce ever prescribe preparing Medicaments, because this violent Disease has no Intermission, but they give them towards the Declension. In a Plethoric Body they order Venesection, but so as not to take away too much Blood at once, but by Degrees, repeating it so often as Occasion requires. Their Averters are, Clysters prepared of Betony, Sage, Hyssop, Marjoram, Rue, Centory the less, Penny-royal, Leaves of Bay-Tree, Seeds of Fœnel, Anise, *Coloquintida*, *Hiera picra*, Polypody, Senna, adding a little Salt of Rue, Bay, &c. They also refer hither Suppositories of Honey with or without *Hiera picra*, and likewise hard Frictions with a rough Cloth, strong shakings about the Neck where there are abundance of Veins and Arteries, Vellications of the Hairs both of the Beard and Pubes, Cupping-Glasses to the Loins, Shoulders, Jugular Veins and inferior Parts, and with Scarification, Leeches set to the foresaid Places and also to the Hemorrhoid Veins. Divers Emetics and Gargarisms, the Receipts of which may be seen amongst many Practitioners, for it is tiresome to recite Things that are so well known. Hither also do belong Sternutatories of Castor, Pepper, Pellitory of Spain, *Euphorbium* (which is said to cause Sneezing most powerfully, and Purges the Brain by the Nostriks.) Also an Apoplegmaticism of the same, a Sinapiism of Mustard-Seed with Figs, boiled in Water to the Form of a Plaster.

Their Exciters and Stirrers up of the Faculty of the Brain, which they say is laid asleep, are Perfumes of *Galbanum*, Castor, *Opoponax*, Unguents prepared of the same, & red

red hot warming-Pan held some distance from the Head, but the Hair must be first shav'd off, for they think the gross and pituitous Humors will by this Means be easily attenuated, like as the Sun melted the waxen Wings of *Dædalus* (if we may be allowed to illustrate one Fable by another.) They put into the Mouth and besmear the Nostrils with Mustard-Seed beat small, mixt with Salt, and macerated in *Aqua-Vitis*.

Corroborators bring up the File, which by them are accounted as Specificks; such as, *Aurea Alexandrina*, *Anacardina*, *Mithridate*, *Diamuscum dulce*, *Diacorum*, *Diambra*, *Acorus* preserv'd, Conserve of Betony, Marjoram, *Acorus*, Sage, &c.

They affirm that *Aqua-Vitis* in which some of the foresaid Things have been macerated, and Nutmeg, and Castor (which they say is very efficacious in this Case) also the Root of *Acorus*, Sage are of great Use. Sprinkling and Washing the Head shaven with Oil or Water, in which have been boiled Flowers of *Stachos*, Leaves of *Origanum*, Bay-Tree, Rosemary, Sage, Chamomil, Melilot, Penny-royal, Savory, Nutmeg and Rue, &c. are convenient.

They commend a rubifying Vesicatory Plaster of Oyl of *Euphorbium*, Castor, Mustard-Seed and *Sagepenum*, as also they highly extol the Unguent of Castor and its Oil, *Aqua-Vitis*, and Oil of Lilies, Flower-de-Luce, Nard, Rue, Spike, Nutmeg. They say that Bathing is not convenient till the Patient has got three Weeks over, after that they advise it,

§. 14.

Paracelsus makes a two-fold Cure, Internal and External. The Internal he says is performed by Corroboration, by the Essence of strengthening Minerals, that is, by the highest and greatest Comfortatives, which dissipate the Mists and Clouds out of the Heaven of the Microcosm, and bring back the Sun which enlightens the Spirits and all the Elements, and makes them purer and clearer. For this purpose he extols Pearls, Stones, Gold, Gems, Coral, Emerald, Jacynth, &c. But he prefers his *Mercurius solis* before all other Things against the *Gutta*, and its Species. But the External Cure he performs by Balsoms, which do their work by cherishing and repairing what the *Gutta* has taken away.

§. 15.

But omitting these Things, let us pass on to *Helmont*, who prefers Vomitories before any thing else, especially if his *Ens potestativum*, which resides in the Stomach, shock the Soul. Therefore, says he, a Vomit of white Vitriol given about the Beginning, cures a new Apoplexy. After that volatil Salts of Stomachic and Cephalic Aromatics do the whole Business, as of Cinnamon, Lavender, Marjoram, &c.

§. 16.

Willis's Therapeutic Method is either Curative or Preservative. Now he that is at other times strong, is, in the Fit, to be kept out of Bed, but he that

is weakly, in his Bed, with his Head pretty high, and forthwith he must be let Blood, after that there must be injected a sharp Clyster, in which may be dissolved *Species Hiera Diacolocynth.* and an Infusion of *Crocus Metallorum.* Let a large Vesicatory be laid to the Nape of the Neck, and others to the Thighs, and drawing Cataplasms to the Feet. Let the Temples and Nostrils be anointed either with Oils, or Apoplectic and Aromatic Balsoms, and all the Members rub'd so hard as to cause Pain. Also all such Things must be used inwardly as are powerful in rousing up the sleepy Animal Spirits, such as are all volatil Salts, as Salt of Harts-horn, Amber, Mans-Blood; Spirit of Harts-horn, Soot, and the like, which may be now and then given in a Cephalic Julap. After these Things let the Patient take a Vomit of Salt of Vitriol, or an Infusion of *Crocus Metallorum.* Vomiting being over, the foresaid excellent Author flies to Strengtheners, such as are *Elixir vite Quercetani*, Spirit of Lavender, Treacle, Camphore, Tincture of Amber, Coral, which may be administred in a convenient Dose in Apoplectic Water. He says that Cupping-Glasses must be applied to the Shoulder-blades and Neck, and that the Spirit of *Sal Armoniac*, or a Suffumigation of *Galbanum* boiled in the sharpest Vinegar must be held to the Nostrils, and that Er-rhins, Apophlegmatisms, and a Purge of *Pilula Rhodii* are not to be neglected. If these Endeavours be not available, he orders a red hot Iron to be holden, at some Distance, to the top of the Head when shaven. The Fore-head and fore-Part of the Head must be so-

mented with *Acetum Bëzoariticum*; and Leeches must be set to the Temples and behind the Ears.

This Author's *Preservatory Method* is as follows. At the Spring and Fall, and each Solstice, he advises Purging and Bleeding; but that altering Cephalicks must be now and then taken as occasion requires, amongst which he reckons *Spiritus Salis Armoniaci succinatus* or *Coralliatum*, or impregnated with Castor or Man's Skull, or Elixir of Peony and Tincture of Amber given to drink in Water either of Lavender, or Rosemary, or black Cherries. He also bids his Patient drink the Decoction of *Tea* or *Coffee* every Morning, and such Drinks as these he frequently advises. I am not willing to enlarge any further, seeing that the chiefest Things are mentioned already, and such as I my self have found successful by Experience.

§. 17.

SOLBIUS dissenting from the rest in the business of Vomits, will not allow any to be given; saying, That since a Vomiting cannot be raised unless the animal Motion of the *Diaphragma*, especially of the Muscles of the *Abdomen*, do assist, which is quite abolished in an Apoplexy, therefore nothing can be expected from Vomits, but a vain Endeavor, and, it may be, some ill Effect upon that: But if the Disease proceed from a *Narcosis*, or drinking too much Wine, in that Case alone he will admit it. To draw the Blood to another place, he thinks it most of all convenient to breathe a Vein, either in the Foot or Arm, and to bleed very plentifully. But if the Blood stick in the Brain, and is already

ready extravasated there, he persuades the Use of Apophlegmatisms to draw it gently to the Palate and Nostrils. But he thinks that the oppressed Animal Spirits should be refreshed with Spirituous Things, especially if the Apoplexy be caused by a Pituitous Humor, in which Case also he advises Erthines, Sternutatories, which, he saith, may very well be prepared of Marjoram, Rue, Flowers of Lily of the Valley, *Nigella*, Sow-bread, wild Cucumbers, Gentian, Tabaco, Cubebs, Mustard-seed, &c.

This Author commends sharp Purgers, such as *Euphorbium* and *Scammony*, but with great Caution, highly extolling Serons, Cupping-glaises with Scarification, Vesicatories behind the Ears, Venesection, lest that the vital Flame should be suffocated in the Heart from whence Death in Apoplecticks does necessarily ensue. But in old Men he orders bloody Scarifying instead of Blood-letting.

The foresaid ingenious Author makes no Account of Plucking the Hairs, Pinching the Fingers, shaking the Body, Frictions and Ligatures. On the contrary, he saith, that all Aromaricks are convenient. But not to be tedious :

§. 18.

WE pass on to the Cartesian Pathologists, who relying upon their mechanic Principles, endeavour with all their Might to remove the Obstructions in the small capillary Vessels and the whole Brain, and that those little Pipes may be cleansed from the peccant Matter. To this End, if the Apoplexy proceeds from Blood, they advise to let Blood freely, but if

from Phlegm more sparingly. They allow of Frictions with hot Cloths, and Spirituous Things, for by this means they do not doubt, but that the Animal Spirits may be roused up, and also that thereby the Matter sticking in those small Vessels may be more easily discharged. They would have stinking Things to be held and put into the Nose, bright Things to the Eyes, and volatils Salts to the Mouth. They prove by Reason, that gentle Clysters should be given in the beginning, and sharper presently after.

About the beginning of the Disease they order an Emetic or strong Cathartic, but do not admit of Salvation by Mercury, because it may cause the peccant Matter to flow more copiously into the Brain.

If the Sick Person be raised with the Use of these, we must proceed further to such Things as open Obstructions and Strengthen, as the Cephalic, Spissific, Salts and Spirits of Amber and Urin, not neglecting in the mean Time to use Spirituous Things externally, because they convey much Coelestial Matter into the Head.

§. 19.

THUS far of the Opinion of others in subduing this Disease, now we will give our Own Advice, as we have found by our own Experience. Wherever therefore the Enemy be lodged, he is to be expelled by a Vomit. For let *Sylvius* say what he will, Vomits have been found by Experience to do a great deal of good. To this purpose these following need no Commendation, *Tartarus Emeticus*, *Oxyphurum*, *Charum*

ebrium, Emeticum à D. Ludovic. correctum, Aqua Rulandi; Vitriolum album, &c. Or,

Take *Syr. Emet.* six Drachms, Cinnamon-Water an Ounce. Mix them for one Dose.

With these Things very often the Enemy is overcome, for as the old Proverb says, *A desperate Disease requires a desperate Cure.* But respect must always be had to the Patient's Strength, as well in this, as in all other Cases, which *Platerus* and *Hoferus* caution as well as we.

If this desperate Enemy hath invaded the Mass of Blood, he is to be ejected by Venesection, which we admit of in every Apoplexy, and in all Ages, yea in extreme old Age. To the timorous we grant, instead of Blood-letting, Leeches, or Cupping-Glasses with Scarification.

Sharp Clysters may also be used.
Ex. gr.

Take of Rue, Rosemary, *Origanum*, Leaves of *Asarum* of each one handful, Flowers of Arabian *Stachas*, Centory the less, Lily of the Valley of each one handful, Root of *Aristolochia rot.* one Ounce, Master-wort, Pellitory of Spain of each half an Ounce, *Carthamus*-Seed ty'd in a Rag two Drachms. Boil them in common Water. In one Pound of the Colature, dissolve of the Electuary of *Hiera picra* with Agarick one Ounce, Gall of a Bull one Drachm, Essence of Sage, Rosemary of each two Scruples, *Mel anthosfat.* one Ounce. Mix them, and make a Clyster.

To this End also we may prepare Suppositories. *Ex. gr.*

Take of the Gall of a Bull thickned, Juice of Rue each one Scruple, Centory the less half a Scruple, Salt of Rue one Scruple. With a sufficient quantity of *Mel anthosfat.* Make a Suppository according to Art.

Afterward, that the Enemy may be quite routed, and the Edges of his Weapons turned, we advise the use of Spirituous Things, such as are all Apoplectic Waters, Spirituous and Odoriferous. Also volatil Salts, as well of Vegetables, as of Animals and Minerals. Amongst Vegetables are Cephalic Herbs, and divers Aromaticks, and their volatil Spirits. From the Rank of Animals such Things may be taken as are volatil, as Harts-horn, the Scull and Bone of a Man, Man's and Hart's Blood, the volatil Spirit of Ants, and their Salt. Of the Class of Minerals these Things are profitable; *Liquor Cornu Cervi Succinatus, Tinctura Auri Clauderi.* But we most of all commend saline volatil Spirits; as the Spirit of Soot, for if the Virtues of it were better known, we should not need to fetch Drugs from the Indies. For the sake of young Practitioners, I will set down a Prescription or two.

Take *Spec. contra Apoplex.* one Drachm, *Sal volatil. Succini* six Grains, Amber-grise five Grains. Mix them, and make a Powder for three Doses to be given with an Apoplectic Water, or this which follows.

Take of Water of Lily of the Valleys, Mint of each an Ounce and an half. Spirit of black Cherries half

half an Ounce, *Liquor Cornu Cervi Succinat.* three Drachms, distilled Oil of Amber four Drops, Syrup of Buck-Thorn one Ounce. Mix them to give by Spoonfuls. Or, Take of Salt of Harts-horn, Amber of each one Drachm, Magistery of Amber half a Drachm, *Ol. still. anthos.* six Grains, of Lavender five Grains, of Amber ten Grains, white Sugar three Ounces. Mix them. Of this our Apoplectic Powder half a Drachm may be took twice a Day.

Fixt Alkali's do also far excel Volatils, being both convenient for imbibing the Acid, and dulling its Points. We also highly value a Specific against Apoplexies, prepared of the Seeds of Mustard, Rocker and Garden-Cress which abound with a volatil Salt. And Spirits of Lily of the Valley, black Cherries impregnated with the volatil Salt of Harts-horn and a little Camphore by reiterated Cohobations. We also upon our own Experience commend volatil oily Salts, as that great Medicine of *Sylvius*, to wit, his *Sal volatile oleosum*.

The Apoplectic Spirit of *Mabius* is of great Virtue:

Take of the Flowers of the Lily of the Valley six Pounds, Cinnamon one Pound, Zedoary half a Pound, Saffron one Ounce, Mace, Cloves of each half an Ounce. Digest them a Month in a sufficient Quantity of Spanish Wine, afterward destil them *per Vescam*. Afterwards,

Take of the Root of Valerian, Swallow-wort, Peony of each one Ounce, Leaves of Baum, Oak of

Jerusalem, Rosemary of each three Handfuls, Flowers of the Line-Tree six Handfuls, Lavender, Spike, Sage, Time of each one Handful. Let them steep in the Spirit above-prescribed for a Month in a Vessel well closed. Destil them *per Vescam*. Add of Spanish Wine as much as needs. Last of all rectifie it in a Bath, with Amber, Mosch and Camphore.

Those Things which young Practitioners ought always to have in readines, are the following;

Take of *Aq. apoplectica, cephal. nostr.* of each an Ounce and a half, *Hirund. cum Castor.* half an Ounce. *Sal. volat. oleos.* half a Drachm, Spirit of Lily of the Valleys a Scruple, Syrup of Buck-Thorn six Drachms. Mix them and give it by a Spoonful at a Time. Or, Take *Aq. Epilept. Lang.* one Ounce, black Cherries, Flowers of the Line Tree of each two Ounces, Spirit of Lily of the Valley one Drachm, Syrup of Clove-gilly-Flowers half an Ounce. Mix them. Or, Take of Water of Baum with Wine, black Cherries, Lavender, Lily of the Valley of each one Ounce, apoplectic Water six Drachms, Spirit of Lily of the Valley, Cherries, Mother of Time of each one Drachm, Syrup of Primroses or Clove-gilly-Flowers half an Ounce. Mix them. Or, Take the Epileptic Spirit of an Elk's Hoof half a Drachm, the volatil Salt of Man's Skull, Amber of each five Grains, Tincture of Castor half a Scruple. Essence of Amber six Drops, Water of Rosemary three Ounces; Syrup

of *Starch* two Drachms. Mix them for twice taking. This may be available both to preserve, and cure in the Fit and out of it. Or,

Take *Spiritus Vin. diaphoret. Helmontii* half a Drachm, *Aq. apoplectica* an Ounce. Mix them for two Doses. Or, Take of the Spirit of Man's Blood, *Spiritus apoplectic. Mynf. Aq. magnanimitat.* of each one Drachm. Mix them. The Dose is fifteen Drops.

Universals being premis'd, the the Essence of the Woods is mightily commended, a Drachm of which may be given twice a day, also *Mynsicht's* Infusion of *Sassafras*.

Also if you cohobate the Spirit of Cherries upon *Vitriol*, you will have a potent Remedy against this Distemper.

Cinnabar of Antimony and Mineral *Cinnabar* is also a great Remedy in this Disease. But if these last Medicaments produce a Fever, you need not be afraid, for it is a certain Sign of Recovery, if they cause a warm and moderate Sweat. For then you may give the Patient joy of his Health.

If *Serum* abound in too great Quantity, then purging is necessary to carry it off. Also *Vesicatories* must be applied to the Nape of the Neck and the Wrist. Likewise let the following *Sternutatories* be snuffed up the Nose.

Take of *Sal Vitrioli* one Drachm, Water of *Marjoram* one Ounce, Spirit of *Lily of the Valley* one Drachm. Mix it.

Also, the following Mixture may be put in a Glass with a Straw Neck.

Take of the Spirit of Wine camphorated, *Volatil Sal Ammoniac.* of each two Drachms, *Harts-horn*, Soot of each one Drachm, Tincture of *Castor* half an Ounce. Mix them.

Or, let this which follows be put into the Nose.

Take of the Oil of Flower-de-Luce, *Tabaco* of each one Drachm, distilled Oil of *Marjoram* six Drops. Mix them. Or, Take of the Powder of the Flowers of the *Lily of the Vallies* one Drachm and an half. With a sufficient Quantity of Oil of *Tabaco* and *Mosch*, make a Liniment. Or, Take of the Juice of *Betes*, *Pimpernel*, *Marjoram* of each one Ounce and an half. Mix them.

Or, Let the Nostrils, Temples and top of the Head be bathed with rich, spirituous and odoriferous Balsams. Ex. Gr.

Take of *Balsam. Apoplectic.* *Roses, Lignum rhodium* of each a Drachm and an half. Mix them, and put it in a Box. Or, Take of the Balsam of *Marjoram*, *Rue*, *Amber* of each half a Drachm, *Balsamum Apoplectic. Crollii* one Scruple. Mix them.

Let the sick persons chew Grains of *Mastic*, Root of *Florentine Orrice*, or *Nutmeg*.

We saw an *Apoplectick* Person brought to speak again by Spirit of *Castor* and *Mother of Time*. That which follows is also very good.

Take *Extract. Theriacal.* of *Sage* of each one Scruple, Spirit of *Lily* of

of the Valleys, black Cherries of each half a Scruple. Mix them and let the Tongue be anointed therewith. Or, Take of Treacle one Drachm, *Confect. anacardin.* two Scruples, Essence of Sage one Scruple. Mix them for the Tongue.

If this Distemper proceed from an unseasonable Use of narcotick Opiates, you may give a Vomit, after that put Castor in all your Medicaments, and rather, chuse such Things as are spirituous and sulphureous than saline. For spirituous Things do take away the noxious Impressions that are already made by narcotick Spirits, as Acids do preserve from their Impression.

So long as the Fit lasts, let the Cause be what it will, you must inject sharp Clysters of *Elect. hiera picra*, Oil of Rue, adding *Alumen plumosum* and *Sal gem.* You may also add, to make it pierce the better, Essence of Sage, Rosemary, Lily of the Valleys,

You may also rub the Soles of the Feet with Vinegar and Salt; and and if all these Medicaments do no good, but a fatal rattling seizes the Patient, in this Extremity we fly to the last Remedy, according to these Verses.

*Si non morbosos sanant medicamina,
ferrum*

*Arripe, sin frustra, pharmaca igitur
erit.*

Hæc tria ni possunt agris adferre salutem,

Amphitryonidis robur inane cadet.

I am for actual Cauteries which operate very potently, amongst which *Moxa* excels all other, for

if it be applied to the top of the Head, it is often a present Remedy; as also an Infusion of saline volatril Liquors into the Veins of sick Persons, for thereby the congeal'd and stagnating Blood is more easily dissolved. This is very much commended by *Ettmullerus* my very good Friend, and *Claudius de la Courvée*.

The back Bone is to be anointed with divers spirituous Things, and other aromatick Liniments. For the sake of young Practitioners we set down the following Liniments, which may be used to the Back, Neck, and other Parts of the Body.

Take of the Oil of Bay-Tree an Ounce and an half, Amber two Drachms, Harts-horn one Drachm, Lavender half a Drachm, *Axungia Castoris* one Scruple. Mix them and make a Liniment.

But if the sick Person have an Aversion to fat things, you may use this which follows.

Take of *Spirit. convulsiv. n. d.* one Ounce, of Ants one Drachm, Harts-horn, Tincture of Castor of each half a Drachm, Mix them. Or, Take of Water of Baum with Wine, Lily of the Valley with Wine, *Aq. apoplectica* of each an Ounce and an half, Spirit of Lily of the Valley one Drachm, Vinegar of Rue as much as is sufficient. Mix them. Or, Take of *Spirit. convulsivus nostr.* one Ounce, *Essent. ad membra* one Drachm, Water of Sage, Betony, *St. John's-wort* of each half an Ounce. Mix them. Or, Take of Spirit of black Cherries, *Aq. apoplectica* of each an Ounce,

Oyl of Amber half a Drachm.
Mix them, and anoint the Back
bone therewith.

For prevention take Spirit of
black Cherries, and Vitriol poured
upon calcin'd Gold, and several
Times cohobated. is good, if three
Ounces be took by a Spoonful at a
Time.

We add this as a Conclusion,
That the sick person may wear a
Cap lined with a Wolf's Skin,
which we have known many Prin-
ces to have used for Preservation,
but with what Success we know not.

Neither are quilted Caps made of
Aromaticks to be neglected.
Ex. gr.

Take of the Leaves of Rosemary,
Penny-royal, Baum of each three
handfuls, Amber three Drachms,
Juniper-berries two Drachms and
an half, Flowers of Roman Cha-
momil three handfuls, Lavender,
Baum, Primrose, Arabian *Stæ-
chas* of each two handfuls, Sha-
vings of *Rhodium* three Drachms,
Benzoin, *Storax calamit.* of each
one Drachm, Mosch three Grains.
Mix them.

CHAP.

CHAP. XI.

Of a Palsy.

S. I.

IT is not for nothing, that we subjoin a Palsy to an Apoplexy, because a Palsy for the most part follows an Apoplexy, when Sense and Motion return. If you would have its Etymology, it comes of the Greek Preposition *παρά* & *λύσις* to loose. It is called *Nervorum resolutio*, a resolution of the Nerves; by Paracelsus, *contractura*; by Platerus, *particularis Apoplexia*, a particular Apoplexy. It is described to be a privation or abolition of Sense and Motion, either in the Body (which is rare) or in some parts, depending upon the relaxation of the nervous Parts, and the animal Spirits, by reason of the obstruction of the one or other Trunk of the spinal Marrow: For the spinal Marrow (that this description may the better be explained) is distributed into two Branches; if therefore, the morbidick Matter insinuate it self into the spinal Marrow, so as to obstruct both Branches, then they

think a total Palsy does arise; but if one Branch only be obstructed, then a Palsy arises either in the right or left Side. And we make no Question, but a Palsy may come in the Jaw, Tongue, Eyes, Feet, Hands, Arms, Fingers, Lips, Eyelids, *Sphincter ani*, Bladder and Neck, (which is confirmed by the German *Ephemerides Ann. 3. obs. 334.*) since we daily see that this or that part is deprived of Sense and Motion, and no Man will deny, that it may so happen, that any part may be deprived of Sense, the Motion unhurt; and on the contrary, it may be deprived only of Motion, the Sense remaining entire. Now and then also it happens, that neither Sense nor Motion are wholly taken away, but they only are dull and stupid: and then we say, this part labours only of an imperfect Palsy; yet, so as that it is sometimes a fore-runner of a true Palsy. Wherefore, a Palsy is reckoned to be twofold, a bastard and true. It is called a true

one, when the part neither moves nor feels; a bastard Palsy, when it only feels and does not move, or when it only moves and does not feel: And this is because of the more or less Influx of animal Spirits into the Nerves, and into their Tubes or Pores.

Motion remains and Sense is dull in that sort, which we call the Sleep of the Limbs, where the Motion remains, but the Sense is in some measure diminished, and sometimes depraved; for they feel, as it were pricking of Needles; and this arises, because by the inconvenient posture of the Limb, the Nerves and Arteries are compressed, so that the Humors move not into the Tubes of the parts, which therefore, remain empty; Wherefore, when the Limb is altered in its posture and stirred, presently the Spirits flow through the Nerves and empty Tubes, which, because they are sharp, they by running up and down, and pricking the Fibres of the Nerves give that Sense of pricking, as it were with Needles; but it is quickly mended; because the Humors presently run into the Tubes and fill them. By the Definition here laid down it appears how, and by what bounds, this Disease is parted from such as border upon it.

§. 2. Difference.

A Palsy according to Practicioners, differs from an Apoplexy and Numbness in degrees: therefore it is called by some a particular Apoplexy. For an Apoplexy affects the whole, and often kills. A Palsy takes some one part. But a Numbness is a Sense of Pricking, and is an Abolition, not so much of Motion,

as of Sense, or rather a Diminution of them; and this is often a fore-runner of a Palsy. Yet some contend, That Abolition of Sense and Motion is required to the Form and Nature of a perfect Palsy. For this Cause therefore, Impotency of Motion differs from a true Palsy, as a thing taken in a large Sense, from one in a strict. I shall add something, but it is only the vulgar Opinion, In regard of the Subject, that is said to be universal, in which the whole Body, except the Head, is seized, and then the beginning of the spinal Marrow is thought to be affected: But if one side of the spinal Marrow be affected, then it is called an *Hemiplegia*.

An universal Palsy is a great rarity; yet six Years since I met with one in a Woman at *Limburgh*. But it is called *Paraplegia*, if some Limbs on both sides be hurt. A Palsy is called old and confirmed, which scarce admits of Cure; or new and not confirmed, which, though it do not easily admit of a Cure, yet oftentimes, by applying proper Remedies, Health is restored. It would be tedious to recount the differences in regard of the Causes, which the curious Reader may of himself find out by the deduction of Causes.

§. 3. Part affected.

According to the Opinion of the Ancients, in an universal Palsy, the beginning of the spinal Marrow, to wit, the primary original of all the Nerves, is most grievously affected, in which the Moderns do differ little from them. But since several Organs are required to animal Motion, it is worth the enquiry, Which of them ought to be

esteemed the principal Part. All are Might and Main for the Nerves: for when a Palsy of the one side or the other happens, then the Nerves of that side (which are separated, the right from the left by a Membrane) are hurt. And so according as there is an Obstruction of the Nerves on the right or left side, or on both, so the Hurt of that side does necessarily follow. *Willis* takes the *Corpora striata*, the *Medulla oblongata*, and the Nerves for the part affected: For according to him these Bodies perform the Functions belonging to Sense and Motion; and sometimes some determinate part of the Body wants Sense or Motion, because according to the Author's Opinion a Nerve is dissolved, from whence the decayed part otherwise received Sense and Motion. Wherefore, we ought with all Diligence to endeavour to know the Distribution of all the Nerves, and from what part of the spinal Marrow each part has its Nerves, about which he discourses exactly and ingeniously. *Sylvius* blames the Muscles, or Animal Spirits for the Subject.

Cartes, Famous for the Acuteness of his Invention, takes the Nerves, the Conduits of the Animal Spirits, for the Subject; for says he, *P. B. Artic. 7.* Now it is known, That all these Motions of the Muscles, and that all Sense depends on the Nerves, that are like small Threads or little Tubes, which arise from the Brain, and contain, as the Brain does, a certain subtil Air or Wind, which is express'd by the name of Animal Spirits. But how these Nerves and Animal Spirits serve for Motion and Sense, he adds in another Section, namely, That it is a continual Heat, implanted in our

Heart, which is a kind of Fire, and is the Author of all the Motion of our Limbs. Here might be an opportunity of adding several things more about Motion and Sense, according to the ingenious Author's Mind, how, while the Soul governs, the Muscles filled with the influent Spirits, are contracted, and draw the annex'd Muscle with them. But our Business will not allow it, you may therefore consult the Author himself, *lib. de Passionibus animæ*.

We take the *Medulla oblongata* & *spinalis*, and the Nerves, and all these Tubes, that is, the Rulers of the Animal Spirits, for the principal Subject: for no other Vessels appear in Man's Body, which primarily convey these vivifick guests, beside that third sort of Vessels, the Nerves. Therefore we reckon the proximate Seat of this Disease, to be in the Nerves, they being primarily affected; and we, as all Anatomists do, distribute the spinal Marrow into two Branches, the right and the left; when the right is hurt, the Palsy is on the right side; and when the left is hurt, on the left. But for the adequate Subject, we take the Muscles, supported on every hand by Motive Fibres, which are deprived of Motion and Sense, not so much through their own fault, as of the Nerves inserted in them, that have suffered the like prejudice.

§. 4. Signs.

THIS Disease has no need of reckoning up many Signs. Difficulty of Sense and Motion, because of the stop'd influence of the Animal Spirits, frequent Numbness, with a Sense of pricking in the Limbs, Vertigo and a mist before the

the Eyes, show it is imminent; sometimes thicknes of Hearing precedes it; but generally a Palsy follows an Apoplexy, as the Shadow does the Body: Oftentimes also it takes one unawares.

Now the pathognomonick Signs are plain enough, since no one can be ignorant That that part has a Palsy, which is deprived of Sense and Motion: But besides, the part, when it is ill nourished, grows lean for want of Blood, loses its natural Heat and Colour, and becomes cold and flabby to the Touch. In a Palsy, a sudden loosning of some part is caused, so that the Patient can move neither Hand nor Foot on that side. Sometimes a Swelling may be observed in Paralyticks, and a Contraction of the Fingers, that is, while some Sense is yet remaining. If the paralytick Part be lifted up, it falls back again by its weight, and easily grows cold. Hereupon, the Muscles being loosned, and unable to agitate the Blood that is brought to them, the Blood stagnates, and being destitute of light, ceases to be spirituous, and grows rapid. The Urine is generally white and thin. The Side that is taken with the Palsy is often cold, and the other hot; also the Eye, Mouth and Lip of the Side affected, are contracted, and drawn on one side. If the Jaw or any part of the Face be Paralytick, it is drawn to the sound side. In this Disease, as we said before, the Sense is perished, the Motion entire; sometime Motion is abolished, Sense surviving, and often both are lost; that is, when the Disease is confirmed; then the Pulse is languid, slow, little, sometimes none. In a scorbutick Palsy especially these salvage, acid Particles are able to stop the Circulation, and by their

coldness to congeal the Blood, and to make it unfit for Motion. If the Sphincter of the *Anus* and the Bladder be paralytick, then the Excrements and Urine come away involuntarily. The other particular Palsies of the Tongue, Lips, Eyelids, Eyes and Neck, are manifested by the hurt Action, on recounting of which we will insist no longer.

§. 5. Cause.

NOW I will give you the Causes of these Diseases out of Principal Authors. In the Front comes *Antiquity*, which derive this Disease from a cold and moist Intemperature, to wit, from Phlegm or a watery serous Excrement, which by long tarrying grows thicker, and obstructs the Nerves. They say, That a Nerve of the spinal Marrow is sometimes obstructed, or rather compressed by an Apostem or some Humor, but that it is most frequently caused by thin watry Humors, derived from the Brain, which easily insinuate themselves into the Substance and Porosity of the Nerves, whence the Nerves being made over soft, are loosened and relaxed, and imbibe so much Moisture, that the Origination of the Nerves is stopt; so that the Passage of the Animal Faculty is hindered, which has its Original from the Brain, as from its first Principle. They also think that this Disease is often caused by gross Vapors got into the Nerves, which often make so great an Obstruction, that the Passage of the Animal Spirits is hindered, whereupon the Nerves grow flaccid, and as it were fall flat. This they endeavour to make out by several Reasons, which we shall forbear to

to mention, since the Books of *Galenists* are full of them.

§. 6.

Petraccius owns the Cause and Generation of an Apoplexy and a Palsy to be in a manner the same: for he often confounds them, or makes them only to differ in their Subject. And, so far as we are able to guess, he blames Mercurial Vapors, carried into the Principle of the Nerves, and into the Nerves themselves, and talks of I know not what *gutta*, that runs down the Body. That Vapors are a Cause, he proves by the weakly Limbs, shaking, and oftentimes the Palsy of Goldsmiths, and such as make Looking-Glasses; and likewise by other Instances of such, as having filled their Heads with the narcotick Steams of Wine, have fallen into a Palsy for some days. Some of his Tribe accuse the Tartar lying in the mass of Blood.

§. 7.

Helmont *Tr. de Lithiasi c. 9. p. 60. §. 82. & 62.* concludes, That a Palsy is a Contracture of the sensitive Parts, caused by Fear alone (so he says) which has a property to shut the Pores immediately, especially if it be sudden: Therefore, he says, Women, who are generally fearful, do often upon a fright fall into a Palsy without an Apoplexy. He therefore takes the falling Flegm for a Cause, and then Fear, which stirs up the Apoplectick Poyson, and so causes a Contracture of the sensitive Parts. In another place, he says, this Disease is caused, if the Parts be warred with a foreign and devious Spi-

rit. *L. spir. vit. §. 9.* But because these things are obscure, I have no mind to wrest them to my Sense.

§. 8.

Willis, that Famous Pathologist, blames the Obstruction of the Passages, and the impotency of the Animal Spirits for the conjunct Cause of this Disease, as they are either narcotically affected, or being small in quantity, do not exert themselves briskly enough: therefore in a general Palsy (which often follows an Apoplexy or Lethargy, and other Diseases, because of a Translocation of the morbidick Matter) the Animal Spirits are hindred from their usual Irradiation or Influx into the nervous Kind, and so the Limbs must of necessity flag. But according to him, not only the Obstruction of the Nerves, the Porters of the Animal Spirits, do offend in this Disease, but the Obstruction also of the *corpus striatum*, and sometimes of the *Medulla oblongata*, and *spinalis*, which if they be loosned, and the Animal Spirits do not sufficiently irradiate, puff up, and by their vigor actuate them; and it cannot otherwise be, but the Parts must grow flaccid, and a Palsy follow.

He makes the mediate morbidick Causes to be not only opillative, but sometimes narcotick, which extinguish the Spirits. For he maintains, That some extraneous, and, as it were, vitriolick Particles, admitted within the Organs of Sense and Motion, do close the Pores, and deject the Animal Spirits, yea, keep them from Motion, and cause a Blasting as it were in Trees. He proves, that this Disease is seldom caused by mere Phlegm or Serous Filth,

Filth, because they that are of a moist Brain and Hydrocephalick, rarely fall into a Palsy.

§. 9.

Sylvius suspects, that this Disease arises either from want of Animal Spirits in the Muscles, or from Straitness in the Passages, that is, of the Nerves, or from Immobility of the Animal Spirits, caused by a Drowsiness and Stupidity. Among the more remote Causes he reckons a watry Moisture, which is able to make the Fibres of the Muscles soft and flaccid. And he adds, That all those things which can obstruct or straiten the Nerves, are apt to produce this Disease, among which he reckons Phlegm falling on the root of the spinal Marrow and causing either a *Paraplegia* or *Hemiplegia*. He holds, that Wounds and all other things that cut the Nerves, and all Narcoticks, which render the Animal Spirits torpid and immoveable, do contribute to it.

§. 10.

Cartes acknowledges the want or weakness of the Animal Spirits to be the immediate Cause of a Palsy, and after his way illustrates it by a mechanical Conception. He says, that the Animal Spirits puff up the Muscles, as Wind does Sails, which ceasing, the Sails slacken and flap. Therefore when the Animal Spirits are stoppt, or flow not in plentifully enough, a flapping and relaxation of the Nerves and Muscles must needs ensue, upon which Sense and Motion cease.

And so the patrons of the nervous Juice, think, that a Palsy arises from nothing, but the thick re-

crements of the nervous Juice, obstructing the unseen passages of the Nerves. But they that will have a nervous Juice, build upon a tottering Foundation; concerning which in another place I shall professedly treat.

§. II.

It remains, now we have seen other Mens, to produce our own Opinion. And we reckon the Cause to be the stoppt Influx of the Animal Spirits into their Conduits. These Spirits are the internal Movers, and are very subtil, so that you may deservedly with *Horace* call them

— *Divina particulam antra.*

For they are the most subtil, saline and sulphureous Particles of the living mixt Body, under a due and uninterrupted Contiguity and Quantity, endued by GOD with a motive and operative Power, according to the Properties and Organization of the Body, which they inhabit. For ALMIGHTY GOD is the first Mover. For as (they are *Helmont's* Words) *the motive Spirits dart the vital Light, dispensed by the Nerves; they carry the pleasure of the Will, or Motion to the Muscles, the executive Organ of the Motion, which the Soul arbitrarily proposed to its self: For the irradiative Light sent by the Spirits being intercepted; no doubt, but a Palsy is caused.* Bartholin confirms this in *Anat. Reformat. c. de Nervis p. 454.* And like as the Sun by the interposition of a Cloud, and the light of a Candle is taken from us by the hand; so the parts deprived of the light of the Animal Spirits, are deprived both of Sense and Motion. For the Nerves are only porous, thorough which

nothing but this light and most subtil parts can pass. As the Rays of the Sun can pass thorough Air and Water; so Dirt and Mud in water can hinder its shining clearly, as *Pergamus l. 1. de Symp. c. 3.* elegantly delivers himself, herein concurring with the Moderns. For we make no question, but this Light is a subtil, moveable, volatil and active thing, whence it has the name of Spirit: Yet, that they are subtilly material, we gather from hence, Because they consist of saline and oily, or sulphureous Particles, and therefore of the most subtil and active ones: And then these Particles both in the Bodies, wherein they are contained, and drawn out of them by Art, and mixed with the Phlegm of the Air, or of their own Body also, are called Spirits. And this will appear more clearly, if one do but consider,

*Halantium germina florum.
Hortenses picturaq; thoros, pastura ve-
nustis
Delicia oculis, & odorum flumine
nares.*

For who dare deny, that these Scents, which exhale from the Flowers of Plants, are the active parts thereof, since even out of their Body, which before they inhabited, they show so great Subtily and Activity, that one cannot imagine any thing to show more?

Certainly they are nothing else, but the most subtil, saline-volatil oily Particles, flowing from the seminal Oyl of Plants, dissolved by Fermentation, which being some way moved, affect our Nose in that manner, which we call Smell. For when this Oyl is taken away, Flowers breath Fragrancy no more.

And Oyls are nothing else, but volatil Salts, concentrated with the sulphureous and seminal Fatness by Circulation. But to our proper Business; just therefore, as the day is without Light, or the Air without Commotion; so is the Body without Spirits. All things grow lax, flaccid, and run to their own Destruction. Now this Flaccidness is from the Obstruction of the Nerves, because when the Nerves are obstructed, the Spirits do not freely flow into them, so as sufficiently to distend them; and therefore, the Tubes subsiding, the Nerves must needs grow flaccid. Let us a little examine the more proximate, mediate Causes, and we shall find either an Obstruction or Inundation, which either stops the Animal Spirits quite, or makes the nervous and muscular Fibres soft and flaccid. And this Obstruction and Inundation are made by a vitious Blood, or by a diluting Serum; for these, according as they offend in Quantity or Quality, or Motion, may raise a Palsy, and extravasated Blood especially falling upon the Pores of the Brain or Nerves is the Cause of this Disease, as we see daily in those, who become Paralytick after a Fall, where always in a manner Blood is found extravasated; concerning which you may see *obser. 65. Ephemerid. German. Ann. 3.* Oftentimes a serous Matter invades the Brain, and besets the Pores of the spinal Marrow, especially if the Serum (which is also called *Lympha*) be coagulated, and it is easily coagulated by an Acid; which coagulated *Lympha* is also called Phlegm, and is that useless viscid stuff in Man's Body, which is able to stop the Pores of the Nerves. But here we exclude no Acid,

Acid, coagulating Mercurial Humors, especially austere and bitter ones. And, if we give our Conception of these last, by *austere* Humors we mean obtusangular Particles; by *bitter* ones Particles more rectangular; and we may liken the bitter to a skreeking sharp Saw, and the austere to a blunt one. Such figured Particles may easily obstruct the passages of the Animal Spirits. Nor do we exclude tartareous and other sulphureous Impurities, discharged upon the *Spina dorsa* and the origination of the Nerves, from obstructing the blind passages, which are the way of the Animal Spirits. For we all grant, if *Serum* fall within the spinal Marrow or *Vertebra's*, that by its weight the Nerves are compressed, and from thence an exclusion of the Animal Spirits, and an Abolition of Sense and Motion must of necessity follow: from whence we may see that cold does remotely contribute something, because it coagulates the *Serum*. So *Cummius* in *Ephem. Germ. Ann. 1. Obs. 84.* has observed, how two persons, who tarried too long in the Cold emptying a Well, were taken with a Palsy in all their lower Parts. For without all doubt the *Lympha* is encreased and coagulated by cold, and therefore we make no question, but it may make Men Paralytick. We read a History of this nature in *Galen*, of one that went too long wrapt up in a wet Cloak, who fell into a Palsy in his Arms, and of another that sat naked upon a cold Stone, who fell into a Palsy in his Legs. Besides, no one will deny, that *Serum* being heavy in Bulk, and preternatural in Quantity, may insinuate it self into the subtil Passages, and by stagnating there may grow tough, and so cause an Obstruction. And luxations of the

Limbs prove, That this Disease may be caused by compression of the Nerves, when, upon the influx of Animal Spirits being stop'd, the parts also labor of an Atrophy; which sort of Palsy *Wedelius* observed in *Ann. 2. Ephem. Germ. obs. 230.* to be caused by crookedness. When a Nerve is cut in sunder, a Palsy of that part must necessarily follow, to which the Nerve should direct the Animal Spirits; for so their passage is stop'd. Thus, a Nerve in the Arm being cut, that Finger which was directed by it, will be stiff. I have observed an Immobility and Numbness both of the Arm and Hand, succeed upon venesection ill administered, which the *German Ephemerides* also confirm. These *Ephemerides* also in *Ann. 2. obs. 63.* testifie, That a Palsy has been produced by Worms in the Arms and Legs; so no Man, who is not a stranger in Physick, can be ignorant, that this Disease may be caused by a scorbutick Taint, that is, by abundance of serous Humor, and acid, bitter, pontick, saline and tartareous Dregs abounding over much in the Blood, carried to the origination of the Nerves, or to the Nerves themselves. And there is nothing more pernicious, for spoiling our Animal Spirits, and making the parts flaccid, than Narcoticks, which dull the lucid Spirits, those brisk and nimble Guides of Motion.

And this Disease often arises from the Colick, to wit, by a translation of the morbidick Matter to the Nerves: Which Colick Authors derive from a bilious Intemperature; but how truly, I question; for it seems to me, That bile without Flegm joyned with it, cannot hurt the Guts, because by its Fluidity and Acrimony it only gently

vel.

vellicates the Guts; and rather opens than stops the Pores: But if there be Phlegm also, then by clinging close to the Guts, and insinuating it self into their Pores, it will produce a greater Mischief, by its continuance there, so that then the colick Pains may arise, which will scarce be removed by emollient Clysters. And we have no great reason to be troubled concerning the passage of that Matter, which breeds the Palsy and obstructs the original of some Nerve or other, that tends to the Limbs. For a blind Man may see, That the Cause of this Evil lies about the membranous Parts of the Mesentery, which have commerce with the spinal Marrow, and therefore may easily obstruct the Nerves, that come out of the spinal Marrow. For those Nerves, which are disseminated from the *Plexus* of the *Abdomen* into the Mesentery and Guts, have almost every where commerce with the lumbar Nerves, as it were by mutual inoculation: And this we observe, That oftentimes a scorbutick matter lodged in these parts, seizes the greater Nerves, and causes a Palsy on one side or both. In every Palsy therefore the original of the Nerves should especially be observed; and for this reason we should be diligent in Anatomy, that we may know the distribution of all the Nerves, and from what place of the spinal Marrow every part has its Nerve, lest it befall us, as it befel some in *Galen's* time, who applyed nervine Topicks to the Paralytick Hand it self, which were proper for the Spine: for whatever Nerve imparts Sense or Motion by means of the Animal Spirits to any part, that Nerve must of necessity be affected in the loss of Sense or Motion.

And thus we have endeavoured briefly to give you our guests, without pomp of words or scrupulous doubts: yet take notice of this, that sometimes truth lies in a thing incredible, and falsity in a thing likely to be true; And it is better to suppose these things from certain Tokens and Reasons, than to fly to the refuge of Occult Qualities, as several Physicians and Philosophers rashly do, who, when they are mistaken, turn the fault of their Judgment into a Complaint of the incertitude and difficulty of the thing. Therefore sometimes I had rather give a dubious Conjecture, whereby doubts may the more easily be cleared, than by rash assent adore another Man's unsound Opinion: for *Carneades* doubts, *Pyrrhus* deliberates, *Simonides* begs time. But now to the Prognostick.

§. 12.

THE Physician, who here makes his Prognostick not rashly, but according to *Hippocrates* his Mind *Prorrh. 5. 3. l. 5.* with great providence, acts most prudently; and therefore until he have duly weighed the strength of the Patient and of the Disease, he will say nothing positively about either Life or Death. In the *Interim*, we must take notice, it is a Disease very hard to cure, upon account of the peccant Matter, and also of the part affected, to wit, the spinal Marrow.

A perfect and confirmed Palsy is a Chronical Disease, and is not over in two or three days, but lasts more Months and Years, especially if it follow an Apoplexy. But that which comes from a scorbutick Taint, or from colick Pain, is more easily and sooner cured (*ceteris paribus*) than others

others. A Palsy from the cutting of a Nerve in sunder is incurable, and also that which proceeds from a Fall, Contusion, Luxation and the like, is very dangerous, of which we had a Case in a Noble Maid, who lived in the Princess of Nassow, my most Serene Lady, her Court: She fell into a Palsy five years after a Luxation, which holds her to this day. But that which comes from an inundation of *Lympha*, may be cured by proper Remedies. A perfect and universal one is more difficult to cure than an imperfect and a particular one; for Instance, of a Tongue, Finger, Leg, &c. A Palsy coming in Winter, and in Old Age, is scarce ever cured. It comes sometimes from a weak Apoplexy, and is in danger of turning to an Apoplexy again. If a Fever or Trembling supervene, it is commonly held to be a good sign: yet that Rule sometimes fails; for in a young Man, twenty six years of Age, at *Camberg* I observed a Trembling and Fever did concur in a Palsy, that followed an Apoplexy, and for all that he died. There is more hope if there be no Atrophy in the paralytick Part; which if there be, it is a very bad sign, for it shows, That the Humors are either not carried to the part, or that they have obstructed the part, which obstruction it will be very difficult for the Physician to remove.

If some little Sense come again, if the Disease be agreeable to the Age, as the Divine *Hippocrates* reckons, if both the internal and external Senses be safe and sound, though Motion is lost, if trembling or pain follow, it is accounted a good sign. If the Eye on the paralytick side be not lessened, if the Patient keep his Strength without

Head-ach or *Vertigo*; if also (as we said before) there be a Fever, there is hope. But the Case is bad, when the paralytick part feels cold to the touch, because it shows that very few Spirits are carried by the Nerves, and therefore we judge, the Nerves are strangely obstructed. It is bad also, if the Excrements and Urine pass involuntarily. *Hippocrates* l. 2. *Prorrh.* gives this Case a black Character. *If any one be ill in the spinal Marrow, and if after a Fall, or any other Cause, a man be deaf, and when he is touch'd, if he feel not, and if at first he neither goes to Stool nor makes Water, unless forced; but when the Disease is inveterate, if the Excrements and Urine come away, without the Man's Will, then he dies within a little time.* In Old Men a Palsy is incurable, because the Nerves of the Parts are hard, and the Fibres thick and not pliable; wherefore Obstructions bred in them are not easily removed.

If a Man's mind be presently stupid, it is bad; but it is otherwise, if a critical *Diarrhoea* supervene. A Palsy ends in Death when an Apoplexy and Consumption, and colliquative Sweat follow it. If Convulsions follow a Palsy, Authors call it a scorbutick Palsy, because then there is a saline or acid Acrimony, vellicating the Nerves, which is also bad, because there is a Complication of Diseases.

There are many Diseases, upon which a Palsy comes, namely, an Epilepsy, Apoplexy (the matter being discharged into a more ignoble part) Colick, Tertian Agues, the Scurvy. *Brassavolus* mentions, how a Palsy followed bleeding at the Nose, the Animal Spirits, that is, being exhausted. If a Palsy come upon an Apoplexy, it is dangerous,

because it is apt to turn again to an Apoplexy.

§. 13. Dietetic Cure.

Hitherto we have been viewing one Hemisphere of this Disease, now we will take a view of the other, that is, the Cure, where the Diet first presents it self, which consists in those six nonnatural things, which are well known to have dominion over our Bodies. Among these Air takes the first place, according to Hippocrates *s. 3. aphor.*

1. *Alterations of the Seasons especially breed Diseases, and in the Seasons great alterations of Heat and Cold are made.* Therefore a hot, dry and serene Air is to be chosen, which must be procured by a good Fire, If the time of the year require it, or by aromatic Fumes. On the contrary, a rainy, moist, cloudy, and especially a cold Air must be avoided. For Helmont *l. 1. §. 61.* does upon good ground call the Cold of the ambient Air *Narcotic*. It is universally held, That cold things are Enemies to the Nerves. I can say little here, as to the influence of the Stars, yet I am uncertain, whether a famous Man be not in an Error, when he attributes a peculiar virtue to the influence of the Stars. In my Practice I have observed that Palsies and Apoplexies come most in the Full Moon. Here I could produce Cartes his Reason, of the Sea's Ebbing and Flowing, ascribed to the Increase and Decrease of the Moon, since the same Inundation may happen in the Microcosm, as it does in the Macrocosm. But since uncertain Conjecture dares not pick out particulars, nor prove universals, we sus-

pend our Judgment, till we can enquire and prove by experience, what we ought to think of the influence of the Stars.

The Meat must be heating and drying, therefore let the Patient eat Flesh roasted, & other Meats of good Juice, season'd with aromatic Herbs, Rosemary, mother of Thyme, Sage, Majoran, &c. Nor must a man eat excessively or disorderly. On the contrary, he must avoid all meats of a bad juice, as Salt, smock-dried, and sowre Meats, milk Meats, and the like, which were endless to mention.

The Drink must be little, let the Patient drink Sage or Rosemary Wine, or Mede, or Water wherein Sage has been boyled. Beer aromatised, and well fermented and clear, may be allowed; and also drinking of Tea. All feculent, generous Wines must be utterly avoided, as Hungarian, strong French, Italian and Spanish Wines, because they have a subtil tartar in them, that is sharp and hurtful to the Nerves, as Paracelsus tract. 2. de contraind. c. 5. testifies. And the trembling joynts of Bacchus's Heroes, and such as offer sacrifice to him whole nights, confirm the same, who thereby do not only disturb Chylification, but stupifie the animal Spirits, and so turn Executioners to themselves. But drinking of Brandy or *Aqua vite* (rather *mortis*) must above all be forborn, because these, as all narcotic and soporiferous things, mortifie and banish the animal Spirits.

Let him Exercise the paralytic Part moderately, but forbear all violent motion; for such wearies the Limbs and waists the Spirits. And too much Rest also renders the Body flaccid, by filling the Head with serous matter: for Waters, except they move, must needs corrupt and

Putrefy; and just so the Blood and Serum grow ropy, and thereby become fit to cause Obstructions.

Sleep must be moderate, day sleep and long sleep are naught. And they take no good course with themselves, who are too much delighted with *Morpheus* his pleasing Phantasms: for so, upon the approach of an Enemy from abroad the Brain may be drowned, which inundation threatens an unhappy Issue, either in a palsy, or in an Apoplexy. Too much Watching also is naught. For it exhausts the animal Spirits, and weakens the Brain, and whole nervous kind.

As to the *Excreta* and *Retenta*, Stool and Urine ought to pass according to Nature, every day, if possible. Other usual Evacuations, such as the *Menses*, Hemorrhoids, Sweat, &c. should be made in due time, or procured.

As to the *Passions* of the Mind, the Patient should study to be cheerful, whereby brisk, subtil, saline, volatil and oily Particles are bred in his Blood, of which afterwards animal Spirits are made, which are the most subtil Part, yea, the flower of the Blood. Far off therefore be his Enemies, Grief, Sadness, Care; for such as emaciate themselves with the Passions of the Mind, put a Sword to their own Throats. I have known several, who through Grief and Care have fallen into a Palsy. Anger must be wholly avoided: for the trembling of the Joynts and Tongue testify, what an Enemy it is to the Nerves. Fright also and sudden Fear should be avoided in this Disease: though there be a rare Instance in *Valerius*, how violent Commotions of the Mind have done good in this Case; for Fear fixes the Spirits.

§. 14. Pharmaceutic Cure.

NOW that we are come to the Pharmaceutic Cure, we must know that the Old *Galenists* commend Preparers in a Palsy, such as *Hydromel*, *Oxymel*, decoctions of Florentine Iris Root, Flowers of Sage, French Lavender, Nutmeg, Cinnamon, *Mel rosarum*, *Scylliticum*, Water of Sage, Betony, Majoran, &c. They extol the drinking of a Decoction of Sage and other aromatick Herbs for four or five days. After these things they prescribe various Evacuators, such as *pilule cochiae*, *de agarico*, *setida*, *massichinae*, &c. *hiera dia colocynthidos*, *dia catholicum*. But in this Disease they use Pills more than Ele&tuaries, because they think, Pills draw the matter better from remote Parts.

They hold that a Vomit should be given once a week, of some of their known Vomits. If a Palsy come from abundance of Blood, (which it seldom does) and the Body be plethorick, they allow and advise bleeding on the sound side. And when the Patient has used these things three or four times, then they betake themselves to Revelents, among which Clysters made with Sage, Chamomil, Majoran, Marsh-mallow, Rue, adding a little *hiera piera*, *Sal gemmae*, and some boyled Oyls, are good. Here also Masticatories present themselves, of Nutmeg, Pellitory of Spain, &c. also Gargarisms, Cuppings, *Nasalia*, sneezing Powders, Frictions with a coarse hot Cloth, and they apply Blisters to the Neck. When all these things are done, they fly to Corroboraters, which strengthen the Brain and Nerves, and are said to amend all manner of Intempe-

nature, such as Treacle, Mithridate, Diambra, *Diamoschu dulce*, Preserved Ginger, Conserve of Sage, Betony, Rosemary Flowers, Galangale, &c. a Decoction of the Woods and *acoris* Root, Ginger, French Lavender, Ground-Pine, &c. They foment the paralytic Part with a Decoction of Aromatics: They make a Bath for the part affected of a Decoction of a Fox. They first anoynt the part with Oyl of a Fox, and then wrap it in his Skin. They make Baths their Refuge, as well sulphureous as nitrous, either Natural or Artificial. They put the Patient in a sweating-Tub twice a day, and they apply heated Stones besprinkled with hot Wine; and when they come out they are put to bed, and take a Drachm of Venice Treacle, and they order the Nerves to be anoynted with some proper aromatic Oyl. Among things that strengthen the extreme Parts, they extol *Unguentum Agrippæ, de Castoreo, Nardo, ex Pipere*, Oyl of Chamomil, Worms, Rue, *Philosophorum*, Bays, Turpentine, *Costinum*, Sulphur, &c. But I will not write *Iliads* after *Homer*.

§. 15.

THE *Paracelsists* use the same Cure both in an Apoplexy and a Palsy, whose Master lays down a twofold Cure, depending on a twofold Cause, to wit, a *Resolutum siccum*, and a *Resolutum coagulatum*. The first *Gutta* he endeavors to cure with this following.

Take of Extract of Spike, Lavender, *Cheiri* Flowers; each three Ounces, *Axungia de Mumia*, Man's Marrow each one Ounce and an half. Mix them.

But he cures a *Gutta* from a *Resolutum coagulatum* in this manner.

Take of Extract of Pepper, Cardamom, Castor, *Anacardium*, Oyl of Bays, Dill each one Ounce and an half, Nutmeg half an Ounce. Mix them.

Lib. 7. de gradib. c. 2. He says, Lavender is a great Medicine in this Disease, and also Baum, sometimes Betony, Castor, Pepper, fat Oyl of Sulphur; yet he adds, that all things are not good for all People. In *lib. 5. de venæsect.* he condemns bleeding in the Toes, but he is for opening a Vein before the Fit comes, where he shews the manner and time of doing it. In the Palsy he says, comfortable and strengthening things must be given by themselves, such as *Aqua vita*, Essence of Lavender, *Aurum Potabile*, Liquor of Pearl, &c. He has this process.

Take of pure *Sol* purged by Antimony two Drachms, Water of Sal gemm six Ounces, reduce them into one with a Separation of the Spirit of Wine; then take of Saffron two Drachms, Alcohol corrected six Drachms: the Dose from three Grains to four or six. Or,

Take of *Sol* prepared one Scruple, Lavender Water corrected with Alcohol of Wine and Spike each one Ounce: the Dose one Scruple.

He highly commends *arcanium Sulphuris* in Palsies and witherings of the Limbs *tr. 2. de memb. contract.* The Description of it follows.

Take of Flowers of Sulphur half a pound, white Antimony two Ounces, Juice of Gold one Ounce, *Aqua Vita* circulated ten Ounces. Digest them a Month. The Dose is half a Drachm.

M 2

He

He also commends Pearl, Balsam of Antimony, *arcantum quintessentia*, Oyl of Vitriol, &c. For to purge, he mixes powder of Man's Bones with purgatives. After Internals he also delivers several Externals, he makes Fomentations with Locusts of the first Tree and tops of Juniper. He orders the Part to be anoynted with Fox Oyl and *Galbanetum Paracelsi*. He commends natural, strengthening and hot Baths. If you would have more, consult him.

§. 16.

FOR now we will go to the *Helmontians*, who highly value volatill Salts, especially such as are made of cephalic Aromatics: and they highly extol Vomits in this Disease, such as emetick Tartar, white Vitriol, *asarum Root*, &c. and other Experiments, which the first Author of this Sect, that accurate Observer of distillations, knew, which we must conceal, because they still lie buried in Obscurity.

§. 17.

WHEN the Palsy comes from an external Accident, to wit, a blow, falling from on high, a wound, excess of cold, or the like, because in these Cases there is an Efflux of Blood, and Humors, he advises bleeding, and to keep the Belly always open with a Clyster, then to put the Patient to bed and give him a gentle Sweat, that the serous superfluities may gradually exhale, and the animal Spirits being gently agitated may do as they were used; for which end he commends *Pulvis ad casum*, described in the *Augustan Dispensatory*, and the Traumatick Decoction with root of Madder or butter-Bar, or flow-

ers of *St. John's Wort*. If there be a Tumor, Contusion or Wound, he applies divers Balsams, Liniments, Fomentations or Cataplasms to the part affected; and if the part be dislocated, it must presently be replaced: If no swelling appear, then he commends *emplastrum oxycroceum, de minio*, &c. Sometimes he will have the paralytic Limb put into horse Dung or hot Grains and held there a good while. In general, he is not for bleeding in this Disease, because the animal Spirits are both bred of the Flower of the Blood, and become elastic within the motive Fibres, by reason of the copula of the Blood; therefore if the Blood be diminished, the Spirits will fail, and the Limbs of necessity will flag.

He commends Evacuations about the Equinoctials, and especially a Vomit of *tartarum emeticum* about three or four Grains, Sulphur of Antimony, &c. Among Purgatives he chuses Resin of Jalap, *Pilule de succino* or *aloephazina*; he advises the giving of cephalick Medicines after them, and between whiles, such as Electuaries, Powders, Spirits and volatill Salts, Tinctures and Elixirs, with distilled Waters. For the ordinary Drink he commends Beer medicated with Sage, Ectony, French Lavender, Sassafras wood, Winter Bark, the whole year long. Issues may be made in the sound Arm or other Parts, especially in fat and cachectic Persons. In a bilious or hot Palsy, he advises the forbearance of Medicines that are hot and endued with active Particles; and in this Case he only admits of gentle things. In a scorbutic Palsy, juices and distilled waters of antiscorbutic Herbs, mixt with Cephalics, do the work. He

He commends topical Remedies, especially about the Part affected. He advises to put the paralytick Limbs into the Belly or Breast of a Beast new killed, or in a Bath, for a good while. Diaphoreticks are good in some Constitutions, but not in cholerick ones. He says, likewise, That Salivation has cured several.

§. 18.

Splius in a pituitous Palsy, 1. Purges. 2. He gives Errhines, Sternutatories and Apophlegmatizms. His Purges are Phlegmagogues, but especially *Mercurius dulcis*. For he observes, That Mercurials are good to purge Phlegm, and Antimonialls for Choler. Issues, Setons in the Neck, and Cuppings are good; and bleeding, if there be a Plethory or Shortness of Breath. Sudorificks are good to correct the Humors. And outward applications are very proper. If it proceed from a *narcosis*, sharp things endued with a fixivious volatil Salt, will cure it.

§. 19.

THe Cartetans first give a gentle Purge. Then they correct the viscid Blood, they open the Pores of the Brain and the Nerves by Sudorificks, and they use Tartar, to extract the virtues of the Simples the better. And last of all they give strengthening and astringent things.

§. 20.

Our own Method is this: First we purge the coagulated *Serum*. If an Acid abound, we give Antacids: But always in Purging we must consider the Patient's strength. And in this case gentle Purgers are best. Aloeticks are good. And divers Infusions and medicated Wines; But Preparers must be given first, made of Incisers and Absorbents. Vomits are proper, especially *tartarum emeticum* made after *Ludovicus* his way; from one Grain to five. Diaphoreticks also are good: Where an Acid offends, volatil Alkali's are proper; and volatil urinous Salts; and solid fixt ones do good, as they ferment the Blood, and rarefy the Animal Spirits, and they being rarefied free themselves of the narcotick Recrements, and expel them out of the Body.

We are furnished with Matter for them out of the threefold Kingdom, as *Sal cornu Cervi succinat. volatil.* and (not to seek abroad what we have at home) Salt and Spirit of Soot: If you had rather have that which is dearer, you may make use of Essence of Castor, Spirit of *Sal Armoniac. Liquor C. C. succinat.* and other volatil things.

We also reckon oyl Volatils to be of singular use in this Case; by which we have recover'd many; amongst which *Schesser's Balsamus nervinus* far excels all the rest; which is usually prepar'd of Salt of Harts-horn, volatil Oyl of Mace, and Spirit of Wine; Preparations of Vipers are likewise very good; with the volatil Salt of which the Excellent *wirelius* cur'd the Prince of *Nassaw*, who was sick of this Disease. Sometimes precipitating, fix'd or dulcifying and Absorbent *Alcali's* do the work; especially when mixt with other Specifics, *wedelius's* Absorbent, describ'd in his *Opiologia*, is very efficacious; to which, if there be occasion, may be added *pulvis lumbricorum*, *terra succin. prepar.* or their volatil Salts.

Take *Bergard. Mart.* twelve Grains, *Pulvis absorbens Wedel.* one Scruple, *Marchion.* half a Drachm. Mix them, and divide it into three equal Parts for three Doses. Or,

Take Water of *Carduus Benedictus*, Germander of each one Ounce, *Spir. C. C. succinat.* twelve Grains, *Essent. Antimon. tartarizat.* fifteen Grains, Syrup of *Scordium* as much as will serve to sweeten it. Mix it for a Draught, and let the sick Person dispose his Body to sweat.

Besides all Preparations of Vipers are very sovereign in this Distemper both taken internally, and applied outwardly. *Ex. gr.*

Take *Off. microtofum. prepar.* three Drachms, of the back Bone of Vipers one Drachm, *Cinab. Antimon.* four Scruples. Mix them, and make a Powder, of which give a Scruple at a time. Or,

Take *Tinct. Bezoart. Essent. lign. compos.* of each a Drachm, *Spir. nistr. Cephal.* a Scruple. Mix them. Of which let the Patient take every Morning for several days in what quantity he pleases.

But volatil Salts are the best in this Case, as also in all cold Distempers commonly so call'd; because they compose the enraged Spirits, and by their Particles which are Volatil, piercing and grateful to the Nerves, insinuate themselves into their Pores, and run quite through them; and by that means give a free Passage and Vigor to the Animal Spirits, increasing them as one fire does another. For the sake of Beginners we will add a Receipt or two.

Take *Pulv. Cephal. D. Michaelis* half a Drachm, *Magist. Cran. human.* Castor of each ten Grains. Mix them for two Doses,

Take Water of Lily of the Valley half an Ounce, Volatil Spirit of *Sal Armoniac.* two Drachms. Mix them. Or,

Take *Elixir. Cephal. Tartarizat.* two Drachms, Spirit of *Sal Armoniac.* half a Drachm, Oyl of *Marjoram* five Grains. Mix them. Or,

Take *Spir. Secundinar. Liq. C. C. succinatus* of each one Drachm, Essence of Castor half a Drachm,
of

of the Woods one Drachm. Mix them. The Dose is twenty Drops.

In a scorbutic Palsy, and that which comes from the Colick, let such Remedies be apply'd as serve to invigorate and strengthen the Brain and Nerves, mixt with strong Antiscorbutics; which cannot be better done than by putting absorbent and precipitating Medicines to antiscorbutic Remedies, which being thus mixt, are of wonderful Use. *Ex. gr.*

Take Spirit of Scurvy Grass, Brooklime, *Elix. Propr.* prepared with the Spirit of Scurvy Grass, *Spirit. Lunbricor. terr.* of each a Drachm. Mix them. Spirit of Tartar dulcifi'd, Tincture of Mars, Vitriol of Mars, *Pulvis D. Michailis*, are very good; and Diuretics are also very proper to remove the tartarous Recrements, as the sowre and feculent Scum, or the impure and wild Salts. *Ex. gr.*

Take of the Salt of Germander, Ground-pine, *Scordium* of each a Scruple, Tartar vitriolated half a Drachm, *Lap. Caneror.* two Scruples, Oil of Cloves one Grain. Mix them, and make a Powder to be divided into eight parts for so many times taking.

But in this Case sulphurous Baths are proper; for *Cicelius* says, He has known divers thrown into a Palsy out of a Colick, which was formerly Epidemical amongst them, and perfectly cured in a short time by these Baths. The most famous *Dr. charleston* in his Treatise of the

Scurvy, (reports) the same of the Bath in *Somerset-shire*.

If the Palsy come by taking Narcotics immoderately, as we have sometimes observed, then the Physician must ply the Patient with Medicaments that abound with a volatil lixivious Salt and other saline Volatils, as the Essence of Castor, &c.

Besides these Pharmaceutics, we advise Chirurgic Operations, but bleeding is not to be advised in this Case; for seeing we find all the Parts feeble in Paralytics, what else can be the effects of bleeding, but to pour forth the precious Balsam of Life already brought so low, which done, the Soul departs? Yet we do not intend to reject Phlebotomy; for in a particular Palsy that comes by a Fall, or Stroke, or from the Blood, &c. we allow it. And also if the Hemorrhoids or other customary Evacuations have been stop't for some time, we then approve it, as also if it happen in the beginning of a resolving Apoplexy that turns into a palsy. So likewise we forbid Cupping with Scarification, which do only torture the Patient, and attract foggy Mists and wild Particles that obstruct the Passages.

Now, that the Spirit and Heat with the Blood may be deriv'd to the Parts, and that a lively Tone may be brought to the loosened Part, we advise rubbing, especially when the Sense once fails; nor do we think that stinging with fresh Nettles is to be neglected; which is to be us'd once or twice a day, till the Part grow red.

We like Scrons and Cauteries very well, as *Sylvius* also does, for they evacuate the serous Matter. If the Distemper come from Com-

pression, a Wound, Contorsion or Fracture, those parts must be put in their proper places with all speed imaginable.

Amongst outward Topics we commend above all other, the wonderful artificial Balsam laid to the Nape of the Neck: But to the back Bone these that follow.

Take *Unguentum Martiatum*, *Nervinum* of each half an Ounce, Oil of Bricks, of Amber of each half a Drachm, *Ol. Petrol.* one Drachm. Mix them. Or,

Take *Unguentum Nervinum* one Ounce, *Ol. Anthos*, Amber of each one Scruple, boiled Rue three Drachms, Spike, Sage, Juniper of each half a Drachm, *Balsam. de Peru. nigr.* one Drachm. Mix them. Or,

Take of *Unguentum Nervin.* two Ounces, Oil of Earth-Worms one Ounce. Mix them.

Oil of *Cantharides* mixt with other aromatic Oils, and the outward Parts anointed therewith, is an excellent Remedy.

Let the Belly of a Stork or Cock be fill'd with appropriate Medicines, then let it be roasted. The Fat that drops from it, is very good in paralytical Distempers.

Spirie of Earth-Worms, Ants and Wood-Lice, &c. will not prove ineffectual. But let this be caution'd in the mean time, that Oils fry'd by themselves or Fats be not too frequently used; for by their Viscidity they stop up the Pores, so that they must be diluted with hotter things, as Tinctures, Spirits of Wine, and other spiritous things; as *Hæffer* observes with us.

We approve of Fomentations, Washings, Perfumes of proper Herbs and Aromatics, which may be infus'd in the Spirit of Wine, and afterwards destill'd; for these spiritous things penetrate, sweeten, irradiate and strengthen the Parts. For this end we commend the following antiparalytic Essence often found by us to be very good for the Members.

Take of the volatil Salt of Hartshorn one Ounce, dissolve it in an aromatic Liquor, and add of the two precious Resins which the Sea throws forth of each four Ounces, of the Essence of sweet smelling Mummy two Ounces. Mix them, and keep it as a Treasure against the Palsy. Or,

Take of the Spirit of Lily of the Valley, *Aqua Apoplectica Langii* of each one Ounce, Essence of Castor a Drachm. Mix them, and with this let the Back Bone be anointed from the Nape of the Neck to the Hip-Bone.

Sternutatories, Perfumes, Baths both Natural and Artificial have a share here; where sulphurous, bituminous things are much better than nitrous. The frequent Use of Artificial Baths, wherein are put Pine leaves and Ants, with nervine and pargoric Herbs, and likewise made of Minerals, are very Excellent in this Case; for they strengthen the loose Parts, restore the Tone, and digest and dissipate the Humors that are got into the parts, that the Spirits may the more freely rove, and discharge their Offices.

And this was the Method of the famous *Borrhus* an Italian Physician, who put several Animals, as, Foxes, Dogs,

Dogs, Ants, Swallows, &c. in a Kettle together, and so made a Bath of 'em. Whom a great and most famous Chirurgeon did successfully imitate; who made Unguents and Oyls of the same Creatures, very proper for this and such like Diseases.

To conclude, by that Excellent Invention of Transfusion we have sometimes cured the Palsy. We have likewise many times, with good Success order'd the paralytic Parts to be put upon hot Things made of Barley, and the Entrails of several Animals. Nor must the Physician give out, for tho by these means the Patient be not presently cur'd: yet he must not despair; for it is a Chronical Distemper, and so he must often revolve in his Mind what *Hippocrat.* says, §. 2. *Aph.* 52.

CHAP.

C H A P. XII.

Of a Convulsion.

§. I. Etymology.

A Convulsion is deriv'd from *Convellō*, to pull together; and *Spasmus*, from *σπάω*, to contract; because that in this Disease one may observe both the beginning and end of the Muscles to be pull'd and contracted together into one. It is also abusively call'd a *Cramp*. A *Spasmus* or Spasm differs from a Convulsion, in that the *Spasmus* is always dolorifick, but a Convulsion is not so.

Definition.

IT is usually defin'd, *An involuntary, constant and painful Contraction of the Muscles, proceeding from a more inward irritation of the nervous Parts, or a too strong Inflation of the Animal Spirits.* I said *Involuntary*; because this Disease forcibly moves the Nerves, or their Fibres and Muscles without the consent of the Will, and so there is an involuntary Motion in a Part, which before had a voluntary one; and it is painful, because it seizes those parts which have the most exquisite Sensation,

Difference.

AS to its several Species or rather Degrees; sometimes the whole Body is taken with a sudden Convulsion, as in a *Tetanus*, where the whole Body is upright and stretched out; in which Case the Beginning of the Nerves is thought to be hurt. In an *Emprostotonus* and an *Opisthotonus* all the parts of the Body are bended; in the first, forwards; in the latter, backwards. Sometimes all the parts of the Body, except the Head, are twitcht together; sometimes the Head only is drawn backward towards the Back. But it most frequently happens that some one particular part is contracted, as the Eye, the Gullet; (so that the Patient cannot swallow) the Tongue, the Skin of the Forehead, the Neck, the Leg, Arm, Toe, &c. There is likewise a gentler sort of *Spasmus*, for it often in a very short time goes away of it self, sometimes it abates merely by rubbing, which sort of *Spasmus* does seldom continue above an hour, and this is it we often perceive in our Legs, Ankles, Fingers and Toes. Some have their
Legs

Legs and Arms, so closely contracted by it, and sometimes their Hands, that all the strength of the by-standers is scarce enough to bring them to their right posture again, before the Fit be over. Others have their Mouths spasmodically contracted, which they call *Spasmus cynicus* and this is when the broad Muscle of the Mouth being contracted only in one part, makes the Figure of a grinning Dog: but if both parts be contracted, it looks like one laughing, and is call'd *Risus Sardonicus*. If, besides this, the Muscles of the Temples and Jaw-bones be irritated and contracted, together with a gnashing of the Teeth, it is call'd *Trismus*. Sometimes the Mandibles are so clos'd, that they can never be open'd.

§. 2. Part affected.

Authors differ greatly about the Subject of the Convulsion. The Ancients thought the Brain to be primarily affected, but the greatest part conclude the Muscles, some the Nerves, and some the Animal Spirits, as being the Instrument of Motion.

Some few, who follow *Willis*, say, It is the Tendons; many, the *Carro fibrosa*, because fibrous and membranous. *Sylvius* and others the *Cerebrum* and *Cerebellum*, together with the beginning of the Roots of the *spinalis Medulla*. Thus others. Our own Opinion now follows: Laying it down first as a certain Truth, That there is the same Subject of voluntary or natural, and involuntary or preternatural Motion, and that, according to the Opinion and joyn't Consent of Anatomists, the Muscles full of nervous Fibres, are

reckon'd the Instrument of voluntary Motion. We do conclude that those Muscles are also the Organ and adequate Subject of that involuntary spasmodic Motion, which *Helmont* also proves, saying, that the Muscles have two Motions, one in which they observe the Will: and the other when they are carried on by their own Motion, without the Will. And this last is also twofold; the first, when contracted by one continu'd Violence, as in the Cramp. We observ'd likewise in the foregoing Discourse, that a Convulsion is immediately caus'd by an Irritation; for we frequently see that the muscular Flesh one while seems to be cut, at other times prickt, without any Convulsion, and on the contrary, that Convulsions frequently come from the pricking of the Nerves and Wounds in the nervous Parts, as may be seen by the bite of Serpents, Vipers and other poisonous Creatures. So that we have reason to conclude that the Nerves and their Fibres are the Subject of a spasmodic Contraction.

For seeing the Nerves have the quickest Sense, they first feel the Irritation before the other parts, and at the same time put the Animal Spirits they contain, into a violent Motion, by which means there must needs be a deprav'd Motion and Sense. We take the Nerves here inclusively, with their fibrous, tendinous, membranous Productions, and full of Animal Spirits; all which, after there is an Irritation, are by a continued Motion spasmodically contracted, and so draw together the whole Muscle, which is the proper Instrument of Motion; and if it be contrary to its Inclination, contracted

tracted towards its Original it is properly said to be hurt; as in the Spasm of the Eye, which is call'd *Strabismus*; the Muscles that move it are drawn together. In a *Spasmus Cynicus* the muscles of half the Face only are contracted; but if of both parts, it makes one look as if he were laughing, and is call'd *Risus Sardonicus*. If the Lips are distorted, the *Musculus laryngis* is affected, from which proceed the muscles of the Lips; and the same may be said of the other parts of the Body. But we may with a pleasant Satisfaction observe this preternatural Motion, if we take notice how the Muscles of Cattle just kill'd, and yet reeking hot, do tremble throughout the Body (like the Hearts of Serpents, Fishes, Eels, &c. when they are pull'd out.) For we see that they are mov'd variously up and down, tho' without Blood, by the Spirits yet remaining, which the Excellent *Erismasterius* confirms in his Elegant Disputation, call'd, the *Small Beginnings of Great Diseases*, §. 15. There may be a Convulsion in every part, where there are Fibres; and all Pains may be derived from hence.

§. 3. Signs.

WE now pass to the *Signs*, by which we guess at this Disease. In every Distention of the Nerves there is commonly a great Pain, which does strangely decay the Strength, especially if it continue long; besides, the part affected does so strongly incline to its Original, through the mediation of the Nerves, Muscles and Animal Spirits, and all this without the consent of the Will; that it is hardly reduc'd to its former Po-

sture, and whilst all the parts subject to the Head, are convuls'd, it happens, beside this Attraction, that the Body either cannot be turn'd at all, or else that it is either so drawn forwards, that the Chin is joyn'd to the Breast, or so distorted backwards that the Head, is forcibly drawn down upon the Shoulder-blades. Sometimes the Head is violently shaken to and fro, the Face growing very red, and full of pain. Sometimes the Eyes, when distorted, shed Tears, and the Patient can scarce open his Mouth. The Back, Cheek-bones, Hands and Legs are stiff and cannot be stretch'd. So that when the Disease is rooted, the Patient is so sadly tortur'd with the Extremity of the pain, that he leaps out of Bed, cries out, and, like a mad man, behaves himself apishly, and dotes, the Spirits roving after this manner out of their Sphere. In the end he discharges what he drinks through his Nostrils, and fancies several sorts of *Idea's*.

§. 4. Cause.

THE Ancients declar'd the immediate Cause of this Dislemper to be either a Répletion or Emptiness, contrary to *Helmont's* Opinion, who look'd upon 'em both as old Women's Stories. The Répletion they deriv'd either from the Blood, whence they say a Convulsion comes even in a healthful Body, in case of too much Ease, or excessive Eating and Drinking: or else from the pituitous Humor which, like the Blood, runs into the substance of the Nerves and Muscles, provided the Muscles swell and are dilated, according to their Profundity, Latitude, and Longitude,

tude, and after they are contracted; for then they think a Convulsion or Spasm arises.

But they deduce the immediate Causes from several Things: either from an Aposthume, or the stoppage of some natural Evacuation, and sometimes also from gross Vapors, when the *Spasmus* comes on a sudden, and goes off gently. Thus far for Repletion, now for Inanition.

That the Emptiness or Driness of the Nerve is often a Cause, they endeavour to prove by these Reasons: Because a *Spasmus* is a longer time in contracting, and too much Labor, immoderate Watchings, a Burning Fever, Care, immoderate Sweating, Vomiting, Purging, Loss of too much Blood, immoderate use of Women, Inflammation, Vomiting by Hellebore or other poysonous Things, Torture, a Hectic Fever, Cauteries, or Vesicatories indiscreetly apply'd to some nervous Part, a great Heat in the nervous Parts, or other such like things have preceded. For from these remote or procaccative Causes they say it happens that the Body, and sometimes the Nerves themselves, are dry'd up to that degree, that their proper radical Moisture being spent they are parch'd like Leather before the Fire, and are shrunk together.

§. 5.

Petraceus refers a *Spasmus* (which he calls *Contractura*) and its Rise, to an Epilepsy, he holds its principal Cause to be the Spirit of Mercury, impregnated with an acetous Salt, making five sorts according to the diversity of its Causes. 1. He says it comes

from some Hurt, Wound, Blow, Bruise, Fall, Nerves shrunk, a Wound not well cured. 2. From the Stone and Gravel in the Reins, and Bladder. 3. From the Colick, the sharpness of the yellow and black Choler putting the Members into a Convulsion. 4. From Anger. 5. From Wine. In another place he proves this Distemper comes from a kind of Microcosmical Mercury, by those who meddle much with it. In another he holds that it proceeds from Wind or a *Flatus*, as also from too much Eating and Drinking.

§. 6.

Helmont calling this Distemper a smaller Epilepsy, thinks every Convulsion to come from the vital *Blas* of the Muscles, stirr'd up by the innate *Archæus*, which is occasion'd by some malignant thing, running into the *Archæus* of the Muscles, and there privately designing against Life; and in *cap. 11. de Lübiafi n. 131, 132.* he says there are several sorts of *Spasms*; as in an *Asthma* he thinks the Membrane that incompasses the Lungs to be affected; in a Pleurisy, the *Pleura*; in the Palpitation and Anxiety of the Heart, the *Mediastinum* or *Diaphragma*; in Vomiting, Hiccoughing, *Cardialgia*, or Heartburn, the Stomach; in the Dropsy, &c. the *Abdomen*, in intermitting Gripes or Colicks, the Intestines; and also that in a *Gonorrhæa*, the *vasa parastata* are contracted by the sharpness of the Seed, and that thereby a *Spasmus* is caus'd. He believes all the contractions of these Parts to be painful, because they affect the *Archæus* and Spirit, with their Sharpness, Crab-

Crabbedness, or degrees of Heat and Cold; for he will have the greatest Heat to proceed from Fire; the next from *Alcali's*, or Corrosives, Sowre, Crabbed, Pontick; and also from salt, sharp, bitter Things and Poysons.

§. 7.

Willis, that English *Galen*, supposes certain heterogeneous and very explosive Particles, to encrease with the Animal Spirits that are in this or that Region of the Body; and shews that the violent and frequent Explosions, caus'd through the mischievous Combination and restless Collision of this Matter and the Spirits, do bring spasmodic Fits. For as often as the nitrosulphureous Particles encrease with the spirituous saline Particles of the Animal Spirits, so often are impetuous Explosions caus'd; which spasmodic Explosions, according to our Author, are not only rais'd in the Muscles; but also in the Membranes, Stomach, Intestines, Mesentery, and other parts void of Blood. The Cramp or *Tetanus* commonly comes, when the Animal Spirits violently jump from one or both Tendons into the *Venter* of the Muscle, from whence not returning as usually, but staying too long between the Flesh, swell it up mightily and contract it; and then if other Spirits neither yield to these Muscles, nor are contracted with them, the stiff part is stretched with intolerable Pain. The Cause of this is said to be, an heterogeneous Matter, which passing into the Muscles through the nervous *Ductus's*, with their juice, and cohering with the Spirits, makes them elastic and stiff, so

that they cannot be kept within the tedious Fibres, but desiring more room to play in, run out into the Flesh, and there stay till their Tumor abate.

§. 8.

FRANCISCUS DE LE BOE SYLVIVS imputes the Cause sometimes to an Acrimony, and sometimes to an Acidity in the Humors; and so argues that one while Choler, especially black, as being the sharpest and most acid of all, another while putresc'd Phlegm, because in this, either the acid, or lixivious Salt lies, is the Cause of this Disease; for through the Acidity and Acrimony of these Humors, the membranous parts of the Brain, *Cerebellum*, the *spinalis Medulla*, the Nerves, and indeed of every Thing else, are so vellicated, and affected, that a violent, copious and lasting Motion of the Animal Spirits to the Fibres of the Muscles, follows upon it; which is what we call a *Spasmus*.

§. 9.

THE Cartesians do lovingly agree in the Cause of this Distemper, with the *Ancients*, (which happens but seldom) for they derive the Cause from the Fulness or Emptiness of the Nerves or Marrow; and prove it by the same Instance that the *Ancients* do: That is, as the strings in an Instrument are contracted by too great dryness or heat, even so are the Nerves convuls'd and drawn closer together; and they will have the Cramp to come by a clammy, cold and thick *Flatus*, that swells and distends the parts; and they prove it by this argument

mongst other Arguments ; because it may be remov'd by moderate Heat, and only by rubbing the Part.

§. 10.

W^{7E}, leaving others to their Opinions, may be allow'd to give our own ; which is, That a Convulsion, both General and Particular, comes immediately from the fury and disorder of the Animal Spirits, which is yet somewhat less than in an Epilepsy. Now all Motion comes principally from the Spirits, for 'tis they that are the promoters of local Motion in the Oeconomy of the Body, by the help of the moving Fibres ; so that as often as any part is affected with pain, through the inordinate and violent Vibration of the sensible Fibres, the Spirits are forc'd to that part, by which is caus'd a full and little less than spasmodic Tension of them : for so long as the Spirits have their elastic Motion, so long will remain in Vigor the Tone of the moving Fibres, and from thence an Aptitude as well of presently receiving a sensible Impression of outward Objects, as a continual endeavor to move. So that the local Motion of the containing parts will continue together with a quick distribution of the parts contain'd, and, according as the occasion may be, with an inordinate Commotion, and, sometimes Exclusion of those Parts. For the motive force of those Spirits being stop'd, and their darting influence in a manner hindred, the Tone of the Fibres will cease too proportionably, the easie reception of Sensibles will abate, and their motive Endeavor will decay ;

as the famous *Estmullerus* ingeniously argues. And so a *Spasmus* proceeds from the Pipes of the Muscles being obstructed, which makes the Humors to stick there ; and the Spirits being hinder'd from entering in, rush into those Fibres about the Obstruction, and by that Irruption, irregularly twitch the Nerves ; and this Reason they give, why the Spirits in great quantity run into the Muscles, through the open Pores of the Nerves, and distend them so much. The first and principal Cause of a Spasm very often lies in the Member it self, and not in the Brain. Let us now a while consider the Mediate Causes. The Enemy coming arm'd with so many several Weapons, some sharp and some blunt, attacks all the nervous Fibres, being the Outworks in which the Animal Spirits reside, which Spirits running out impetuously, an Irritation of those nervous parts is caus'd ; by which more inward and constant Irritation, the nervous Fibres are twitched and contracted ; the Muscles are shorten'd and swell, together with a Pain and Hardness caus'd only by this violent Influx of the Animal Spirits. For it is the shrinking up of the nervous Fibres, moved with pain, and not Fumes and Vapors that cause convulsive Motions. Now those things that twitch the nervous Parts, and cause Crispations, are all sharp, bilious, sometimes acid, pontic Humors, communicated to the *Genus nervosum* together with the Blood and *Lympha*, by Circulation. Also several strong Purgers taken inwardly, Antimonial Medicines which are as bad as Poyson ; for by means of the pricking of Antimonial Particles, drank in the Infusion of *Circus Metallorum*, or vitrum

An-

Antimonii, the Fibres both of the Stomach and also other *Viscera* and Parts, may be drawn together and twitched, which is the Reason that irregular Vomits often forerun Convulsions. For if an Acrimony happen to affect the nervous Part, the Crispation spoken of before begins by degrees, till it arrives at the Brain, and disturbs the Animal Spirits; so that it is plain by what has been said, That a Spasm does not so much, as the Ancients would have it, come from Emptiness, as an Acrimony which follows it; as we may see in an *Hypercatharsis*; as the Excellent *Wedelius* observes in *Ephemer. German. An. 20. obs. 75.* nor do we excuse here any feculent, poysonous, tartarous, acid Humor, whether it be Phlegm, or Serum, or the *Succus pancreaticus*, according to that old Observation: *Acids are hurtful to the Nerves.* For this Reason those that have the Gout are so often vex'd with Spasms, as also Children, who, through eating too much, have either too viscidious an Acid or Worms in their Stomach; as also those of riper Years, who drinking too much Rhenish Wine, for the sake of the grateful Gust of its Acidity, are punish'd with a Trembling; so that the Acid, to cause a Convulsion, must be somewhat more fix'd, grosser, and mixt with something moderately viscid; but it must not be a volatill Acid, for by running into the Pores of the Brain, it will rather and sooner produce an Epilepsy, than a Convulsion: Amongst remoter Causes we reckon all things which administer Acrimony enough to irritate the nervous Fibres, either by communicating it to them, or spending the gentle Humors, so as that the rest become sharper and

consequently more hurtful to the Nerves. We have seen this Spasm commonly happen to scorbutic Persons, by reason of the Fluidity of the Salt; as we sadly observ'd in a Councillor's Lady of good Quality, who first vomited a great quantity of acid Phlegm, which was follow'd by a Convulsion of the Hands and Arms, together with very great pains of the Heart. After the Acid was mitigated, all the Symptoms abated by Remedies we shall speak of hereafter, and so the Disease was cur'd.

All sharp Poysons, Wounds, Blows, Bites of venomous or mad Creatures, and prickings of the Nerves, may cause this Disease. A sad Instance of this we knew in a skilful Apothecary, who had a little Splinter of Wood struck into his little Finger, which without doubt was poyson'd (for it was on a Table where he was handling Poyson) which he taking no notice of, the next day it swell'd and grew very painful; upon which Convulsions following, he dy'd: so that if the hostile Particles, or those Spikes stick very close in that tenacious, clammy Texture, as they do easily to the inward nervous and very sensible Coat of the Stomach; by means of that painful continu'd Impression, the Spirits may be violently forc'd; and a Spasm of the Stomach under the *Pylorus*, and so a spasmodic vomiting may be caus'd. Nor do we doubt that all the other parts of the Body, and the *Viscera* themselves, as the Ventricle, Reins, *Folliculus Felleus*, Heart, Intestines, Mesentery, Bladder, Womb, &c. those which have Nerves, the Organs of Sensation, may be irritated and drawn together, and so be taken with a Spasm or convulsive Crispa-

Crispation; for where ever there are nervous Fibres, there may be a Spasm. The Skin likewise full of these, is a sort of wonderful Net, knit of the Fibres of the Arteries, Veins, Nerves, and Tendons, variously complicated into one another; yet so as that it is more nervous than venous; furnished with such a stock of nervous and tendinous little Fibres, together with a great number of very small capillar Arteries and Veins interwoven; so that we make no doubt of the Contraction of the Fibres in the Skin, in shiverings and burning Fits, which is notorious even to every ordinary Physician. We might speak more of the trembling of the Heart, of the Palpitation, and other convulsive Motions, hysterick, hypochondriack, of the trembling of the Limbs, &c. but we forbear; because the Famous *Willis* has ingeniously and exactly handled them all. Especially seeing the quick Reader may, by making a deduction from what has been already said, easily find out the Cause of other like convulsive Motions, since they only differ in place. I will only add one word concerning Trembling; that it comes mostly from the Animal Spirits running into the opposite Muscles through the open Valves; which Spirits either do not flow in with any force, or else violently and in great quantities, and so leave those Valves open, just as the Wind does a Door half open, when it blows gently against it; or if those *Valves* be hurt, so as that there be holes in them, through which the Spirits have a free passage. An idle Life brings a Spasm, as breeding Obstruction, which is the Occasion of

§. II. Prognostick.

WE now proceed to the Prognostick of this Distemper. A Spasm which comes by a Wound is very often mortal, as we have known in a Souldier about three years since; as also not long ago in a Country fellow, who was to be cur'd of a Rupture. The Case is also bad, if the Convulsion be caus'd by Hellebore or other strong Purges, as the great *Hippocrates* also testifies. That Spasm is also the more dangerous that comes from an *Hypercatharsis* and Profusion of Blood, together with a Weakness. And it will be hard to cure if it proceed from a burning and malignant Fever, so that it is better a Fever should come after a Convulsion, than a Convulsion after a Fever; because a Fever cures a Spasm, by removing the peccant matter; for he that is troubled with a Convulsion, or Distension of the Nerves, is cur'd if a Fever supervene.

Whoever are took with a *Tetanus* die in four days, but if they pass those well they are out of danger, as may be seen in *Hippocrates* his Aphorisms. If the Patient by being tir'd out with too frequent Tortures, and Convulsions, become like one distracted, so that he be speechless, want Strength, be spent with Sweats, and throw up what he drinks through his Nostrils, it is mortal. We have observ'd the Distortions of the Lips, Eyebrows, Eyes or Nose, in a continu'd Fever to be often signs of Death. The same Distemper ends in Death when the Matter is carried to the Brain; and a worse Distemper, as an Epilepsy or Apoplexy supervenes, and if the Strength be

N

spends

spent. But *Hippocrates* will better unfold these Mysteries to you, to whom we refer you in his Aphorisms.

§. 12. Dietetick Cure.

Let us now expose our own Commodities, and give our Opinion, as to the Dietetick Cure.

1. Let the Air be temperate and clear, avoiding a North, Cold and Winter one. For *Hippocrates* has long since observ'd, That Cold causes Convulsions, Distensions of the Nerves, Blackness and Blewness and feverish Shiverings; and we also have caution'd it above. 2. Let their Meat be of good Juice, for which purpose Cream of Puffin, hatch'd-Eggs, Capons, Hens, Chickens, are good. Let them choose rather roast meat than boyl'd, and let Cephalicks be added to their meat, such as Marjoram, Sage, Thyme; also Raisins and Almonds are convenient. Let them avoid salt, acid, sharp, briny Meats; nor let them eat too much, so as that it cannot be digested, but turn to an acid, viscid Paste, whence must arise various Inconveniencies. Let them also especially avoid all sowre Fruit. Let their Drink be Ale well wrought, brew'd with nerve Simple, such as Roots of Penny, Clove-gilly-flowers, Leaves of Sage, Rosemary, Germander, or a Decoction of Barley, or Mead. Let the Patient forbear hard drinking: for all excessive eating and drinking is principally to be avoided as dangerous. 3. Rest must be enjoyn'd, and immoderate Motion must be forborn; but Frictions of the *Vertebra's* of the Neck, and other parts are allowed. 4. Let them sleep and watch mode-

ately; for else several Alterations in the Humors and Spirits happen.

5. Let their Excrements by stool be as Nature requires, as also all other customary Evacuations; for all Obstructions of the Viscera, Mesentery, Womb, Hemorrhoids are hurtful; and on the other hand, all immoderate Evacuations are to be avoided; such as bleeding at the Nose, Womb, Hemorrhoids, *Hypercatarses*, excessive Sweating, too much use of Venery, (which disturbs the Spirits and puts them upon irregular Motions) Hunger, Poisons, strong Purges, Medicines of Hellebore, Antimony, &c. contribute much, and after excessive Evacuation, cause a sharpness both in the Blood and Serum; and spoil the *genus nervosum* with spasmodic Contractions. 6. Let the Mind be always chearful; for Perturbations are very dangerous, amongst which Anger is principally the Cause of this Distemper, for Anger sharpens the Bile, and Bile sharpens the Animal Spirits, by which they become irregular, and occasion this Disease, for which reason *Helmont* attributes the deadly effects of Vipers and other venomous Creatures, to the impression that Anger makes in them; yet we do not here undertake to set down our own Sentiments, but rather admire the Industry of others in this work: For 'tis no great matter to us, whether the Choler, through Adustion, or the only Part of the Blood in the Heart, in some measure turn to a Salt which dissolves in the Serum, Fright, Fear, Melancholy, &c. may easily cause this Disease, as disturbing the Animal Spirits; which I lately observ'd in a Person

of Quality, who with the Grief she was seiz'd with, for the Death of a near Relation, had many violent spasmodick Fits.

§. 13.

THE Ancients thinking, that a Spasm comes chiefly through a Fulness of cold Humors, first loosen the Belly with a Clyster, and then prepare the Humors by gentle Medicines; after that carry them off by Purgers; such as are Diaturbith with Rhubarb, Agarick and its Infusion, *Pilula coctæ, fetidæ, de Sçapeno, de Opopanace, &c.* and of these they usually make divers Compositions and Forms, which would both be tedious and needless to set down here. After this they prescribe things to divert the Humors from the part affected; as Frictions, Ligatures, Blisters, Sternutatories, Gargarisms, Clysters, Apophlegmatisms. Last of all they prescribe things to carry off the Dregs, and strengthen the nervous Parts. Their Corroboratives are, Treacle, *Confectio anacardina*, Mithridate, *Dianthuscum dulce*, *Acorus*, *Castor*, *Opopanax*, &c.

Among Externals they reckon divers aromatick Oyls both boyled and destilled; for instance, Oyl of Foxes, of Lilies, of the Philosophers, *de Piperibus*, Fat of Hens, Man's Grease, &c. Whelps cut open alive, and Lungs taken out of Creatures alive, are applyed to the distended Part, while they are hot: And they put the convulsed parts into warm Oyl; that they may recover heat. They use Skins of Foxes, Cats, Sheep and Wolves, to cover and keep warm the convulsed Parts. They commend Baths, whether they be Artificial or Natural, to wit,

whether they be sulphureous, bituminous, salt or aluminous; in defect of which they use to make one of Sage, Betony, Mallows, Wormwood, Rue, Marjoram, Penny-royal, Chamomil, Roots of white Lily, Seed of Fœnu-greek, Line, and Minerals; Sulphur and Alum. Then they cup and scarify the hard part of the Head and Neck.

§. 14.

THE Paracelsians give Medicines to open the Pores, Heaters, Moistners of the Arteries and Nerves, not by any external quality, but by their specifick Form. And so Paracelsus himself, because with him a Contracture is a Disease in the highest degree, will have the Medicines to be exalted and made spiritual in the same degree. Upon which he gives two Cures; one Internal, another External. The Internal is performed by Purgers and Strengtheners, to cause the Humor of Life to encrease and abound, so as that it may be able to expel the Disease; such as *Aurum potabile*, Essence of Gold, Pearl, Antimony, *Arcanum Sulphuris*, *Aqua vitæ*, Oyl of Vitriol, Water of Tartar, Quintessence of Coral, Essence of Castor, drawn with Spirit of Wine, is given with good Success in a Decoction of aromatick Herbs.

The External Cure is performed with the things following. Fumes of Mastich and Juniper, Oyl of Turpentine, Bays, Frogs, &c. *Gumi Galbanum*, Ivy, Ammoniack, *Opopanax*, Fat of Foxes, Deer, Badgers, Mouse of the *Alpes*, Goats, Cats, Bears, &c. are good. They commend Oyl of Serpents, and of the Philosophers; because they make

the Body nimble and healthy. *L. 3. de morb. metall.* he commends curing by *Mercury*, and a Bath of Agrimony, Flowers and Roots of Lily *Convall.* Swallows, with a little burnt Egg-shells. After bathing they anoint the Limbs with this or the like Liniment.

Take of Fat of Foxes boyled out one Pound, add of Castor distilled five Ounces, Turpentine distilled with Pepper, *Cantharides* and Bay-berries, seven Ounces and an half. Mix them on a fire.

It is good to anoint with Oyl of *Euphorbium*. *Paracelsus* highly commends the little triangular Bone, which sometimes, though seldom, uses to form the double Lamdocidal Suture. Somewhere he commends distilled Oyl of Masterwort Root, and in another place he advises the Flowers of Agrimony corrected. But who can recount them all?

§. 15.

HElmont and his Followers cure either by asswaging the furious *Archæus* (who they say is peccant in this Disease) with Man's Grease, or by mortifying him with strong Ligatures, or by removing Malignity from the Spirits; all which things Opiates do perform, both taken inwardly and applied outwardly. Here is a Receipt.

Take of the best Spirit of Wine one Ounce, *Opium Thebaicum* one Drachm and an half, Camphor twelve Grains, Castor one Drachm. Mix them for External Application.

§. 16.

Willis, as was said before, calls an Epilepsy a little Convulsion, and observes the same Cure in a manner, which he does in an Epilepsy, that is, he gives Purges, Vomits, divers altering Specificks, Empirical, and Chirurgical, Spirit of Harts-horn, Man's Skull, Soot, Blood, Sal Ammoniack, *Millipedes*, aromatick Herbs distilled, and a thousand such like things; which he has in an excellent piece *de morbis Convulsivis*, out of which an ingenious Physician may pick choice Remedies.

He says likewise, that sometimes Blisters applied to the Neck and behind the Ears are proper; for so abundance of ferous and sharp Humors are drawn from the Head. Moreover, Sneezers and Apoplegmatisms do often in this Case afford great Relief. He is for a repetition of bleeding in the Hemorrhoids or Foot. When the Case is violent he loves to apply Plasters and Cataplasms to the Soles of the Feet. He claps Epispasticks to the Calves of the Legs, and to the Thighs.

§. 17.

Sylvius in the Cure of this deplorable Disease, as to Externals, follows *Paræus*, and immediately applies *Emplastrum diachaleceos*, melted with Oyl and Vinegar; and he gives better reason for what he does, than *Paræus*; for our Author judges, That the Fibres of the Muscles, which are much upon the stretch, are slackened and softened. He also approves of what *Paræus* commends, namely, rolling:

ling : because it presses the over distended Muscles, and gently hinders them from a hurtful distension of the Fibres, and it may be from an incurable Rupture of them. And he does not condemn the following Cataplasm, which *Paraus* applied to *Charles* the Ninth King of *France*.

Take of Flower of Barley, bitter Vetch each two Ounces, Flowers of Chamomil, Melilot each two Pugils, fresh Butter an Ounce and an half, a Barber's Lather what is sufficient. Mix them.

And if the Pain will not abate with the use of these things, he with *Paraus* flies to Oyl of Turpentine, and Spirit of Wine mixt and warm, or to cutting off a Nerve, Tendon or Membrane. Thus much for Externals, when a Convulsion arises from the pricking of a Nerve, from an Ulcer or *Fistula*, or such like Cause. The Internals in this Case or Sudorificks consisting of a volatil Salt, such as Spirit of Tartar, Treacle-Water without the Acids, and other things, which I shall not here mention. If this Disease arise from Wounds or Blows of the Head, the fragments of the Skull, supposing there be any, must be taken out ; for which purpose, if there be no other way to take them out, a Trepan must be used : for when the Skull is opened by it, they may be taken out, and when this is done, Oyl of Turpentine mixt with Spirit of Wine, must be poured into the Wound. But if the Convulsion come from a Burn, then he advises Oyl of Nurs or Rape seed by expression. Among general Remedies (for we have had the special before) he

reckons sulphureous Baths, because they are able to penetrate the deepest to the parts affected ; in defect of which he would have a Bath made of Salt of Tartar well calcined with Sulphur, boyled in Spring Water. After bathing he is for having Man's Grease, Fat of Eels, and Oyls applied, because by their means he thinks the Acrimony of the lixivious Salt and acid Spirit, or the Causes of Pain and Convulsions is corrected. He commends Fomentations of heating aromack Plants, hot Plasters and Cataplasms, which as briefly as may be we have reckoned up.

§. 18.

THE Cartesians, because they say, a Cramp arises from a cold Humor or Wind causing Obstructions in the Vessels, are of opinion, That all De-obstruents and Dissolvers of Wind are good, whether Internal or External, volatil Salts, and other Cephalicks, of which we have abundantly treated in the *Chapter of the Epilepsy*, and therefore are loth to repeat them.

§. 19.

SO others judge of the Cure. This Method pleases us, namely, we think that Purgers are good, if so be a preparation of the Humors have preceded, which is the only thing, and can only be expected from spirituous Medicines, because this Disease proceeds from a Perturbation and Explosion of the animal Spirits in the Humors, and all other ill Qualities in the Humors should be corrected by sweetening, spirituous things ; after which all Functions proceed the better.

If therefore the Patient have opportunity, and his Strength and Disease will admit of purging, to carry off the sharp, bilious, poyntick, and tartarous Matter, we may take any of these things following, Rhubarb, Senna, Tamarinds, and other gentle things; but if the fixtness of the Matter require stronger Medicines, we should chiefly advise *Mercurius dulcis* from a Scruple to half a Drachm given in Conserve of Roses, or the following Physick Wine.

Take of Leaves of Betony, Germanander, Ground-pine, Rosemary each half an handful, Flowers of Lily *Convall.* Cowslips, each two Pugils, Roots of Peony, Liquorice each three Drachms, Leaves of Senna two Ounces, yellow Rhubarb three Drachms, Seeds of Fœnil, Costiander, Anise each one Drachm and an half, Cream of crude Tartar two Drachms. Cut them and put them in a Bag for a measure of Wine.

Sometimes to root out the Disease, I have given a Vomir of emetick Tartar of Myrsicht, or of Ludovicus from two to three Grains; especially if a viscid Acid be lodged in the inner Coat of the Stomach, and if the Disease have been of long continuance, and become in a manner habitual: But if the Strength will not bear it, or any other circumstances dissuade it, I think strong Purgers should be omitted, and that a Clyster may be given instead thereof. These things premised, at the Coming and in the Progress of every spasmodick Contraction, it should be our care, That the irritation of the nervous Fi-

bres, and the two impetuous Afflux of animal Spirits may be laid, which we may obtain by spirituous dulcifiers, such as Spirit of live Ants, with their Eggs hanging to them, Spirit of Harts-horn, Secundine, Man's Blood, Swallows, *missura cephalica Cnasellii*, *aqua magnanimitatis*, *arcantum cephalicum nostrum*, *essentia cephalica composita*, and several other things, which have almost the same effect. But Medicines, that do the most good, are made of fixt, cephalick Alteratives, and sometimes of volatiles, which are usually given before and after vomiting, and may with good success be used to correct an acid or a sharp; and this is one effect of theirs, that they incide and soak up what is morboous; such for weaker Persons are Crabs Eyes, Coral, Sows, Worms, Ashes of Moles, fixt and lixivious Salts and Alkali's, *Tartarus vitriolatus*; for stronger filings of Steel; for rich and tender People, Essence of Mars made with juice of sweet Apples. Vitriol of Mars, *spiritus Vitrioli striatus cum urina humana volatilizatus*, &c. are every whit as good as these. In a word, all manner of antispasmodicks do the business; under which we comprehend *Sulphur antimonii auratum*, that is, precipitated from the drops of the regulus of Antimony with Spirit of Sal Ammoniac, Glauber's Cinnabar of Antimony, called his *Panacea*, *specificum cephalicum Joh. Michaelis*, *cinnabaris solaris Sebastiani Schesleri*, our Antispasmodick Powder, which follows.

Take of native Cinnabar one Drachm, Magistery of Luna half a Drachm, Man's Skull, Powder of Amber each one Drachm and an

an half, Ashes of Swallows and Moles, red Coral, Pearl each two Scruples, Sugar of Pearl three Drachms. Mix them. Make an antispasmodick Powder.

I have done wonders with this, and found it twice as strong as the Augustan antispasmodick Powder. Among Liquids these excel; *Liquor cornu cervi succinatus*, *Balsamus nervinus Schefferi*, *Spiritus antiepilepticus noster*, &c. A Spasm cannot otherwise be cured than by discussing the Humors and Spirits by insensible Transpiration, or unless such plenty of Spirits be sent to the Muscle, that at length the Valves, being violently pulled back may recover their natural State. But if the Spasm arise from a scorbutick Taint, we use to mix Antiscorbuticks with Antispasmodicks; for instance, our Antispasmodick Essence, or let it be this or the like distilled Water which follows,

Take of *Diascordium* one Ounce and an half, Flowers of Line tree, Leaves of Germander each three handfuls, wild Rue one handful, shavings of Elks-horn half an Ounce, decoction of Sarsa Root, juice of Brook-lime each two Pounds. Add of our spasmmodick Powder six Drachms. Mix and destil them in glass Vessels. Add of the Tincture of Peony, half an Ounce. Mix them.

If the Patient's Complexion be not too bilious, a most Excellent Water may be distilled of Tansey, if a great deal of that Herb be put to a little Water, and distilled according to Art; this Water specifically cures the Convulsion, so do

Oyl and Spirit of Saffron and Saffron in Substance, Oyl of Lavender, Juniper and Amber, and all things that are good in soporous Diseases, especially in a Palsy, except sharp things, are good here. In a trembling this following will be Excellent.

Take of Spirit of Sage two Drachms, Essence of Castor one Drachm. Mix them. The Dose thirty Drops.

But if this Disease proceed from the Womb, or if the Stomach be convulsed after eating poisonous Meats, that is, Mushrooms and such things, Vomits are proper. If the vomiting come of it self, Medicines made of Castor and Cinnamon must be prescribed, and at length safety must be sought from Opates. In all Contractions of the Nerves we use *laudanum cydoniatum* in Hoffmannus his *Clavis pharmaceutica Schroderiana*, so that after a moderate Dose of Anodyne has given rest, Strength returns to Body and Mind; all sharp things are sweetened, &c. Yet some quarrelsome, ignorant Physicians blame these Medicines, and had rather let their Patient die than yield to sound Reason and Experience, and so save his Life; but *Ignoti nulla cupido*. For Opium checks the impetuosity of the Spirits, as its known effects in our Bodies. Somnolence and Indolence do testify; and when the Tone of the sensible Fibres grows flaccid, they are not so easily moved, though the Object be stronger, nor is the Impression on the first Sensory sufficient to cause Pain or convulsive Tension. Where ever therefore Crispations and spasmmodick Contractions are,

the foresaid Opiates are proper, such as *laudanum opiatum*, *theriaca celestis*, *tinctura anodyna Wedelii*, &c, because they more or less stay the Motion of the Animal Spirits, and correct an Acid: for we consider the Acid, though but little in quantity, which pricks, gnaws, and painfully irritates the nervous and fibrous Parts, whence sometimes several Symptoms follow, all which Opiates appease. I have sometimes seen a Convulsion come from a preposterous cutting for a Rupture, or from other Wounds; so that often Patients die like People strangled; for the Muscles of the Jaws are convulsed on both sides, and the Teeth set, so that though they be miserably hungry and thirsty, they can swallow nothing, while the Neck continues stiff, and their Pulse equal and strong, till the Pulse intermits and grows swifter, and Death puts an end to the story. I observed such a case only through Grief, and taking of a strong Purge in a subject predisposed. Yet I have known cases wherein I have given Medicines with success, one of which is this following; namely, *Liquor cornu cervi succinatus*, *terebinthinatus*, Oyl of Lavender, Spike, &c. Externally I have used divers hot Cataplasms, vulnerary Balsams, and that of *Sylvius*, Oyl of Turpentine mixt with Wine; by which Remedies the Spirits were appeased, and the Patient saved. In a *Spasmus cynicus*, Oyl of Turpentine diluted with *Aqua Vita* is effectual Inwardly and Outwardly. A Cramp in the Calves of the Legs may easily be cured by Oyl of Bays, Lavender, or Turpentine heated at the fire, tying them with hot swathing bands afterwards. If a Convulsion come from the bite of any veni-

mous Creature, the Wound must be dilated, and a Blister must be applied to the grieved Part; then for some days Treacle or Michridate dissolved in *Aqua Vita* must be applied to the Wound. If it proceed from pricking a Nerve, then the Wound must be enlarged and Oyl of Turpentine dropt into it. But in a desperate case the Nerve must be quite cut off. The famous *Othorachenius* saw a Witch cure a continual Convulsion by tying a flaxen thread about the Part: but I believe this came from a supernatural Cause; as you may see in *Tract. de morb. princip. p. m. 167*. But upon better grounds I advise, as *Sylvius* does, sulphureous Baths, either Natural or Artificial, which very much dull any spasmodick Acid or Sharp by their oily Particles. I have experienced them in Princes, who were troubled with this Disease. You have had the Materials of Artificial Baths before. I can upon my own Experience testify, That Oyl of Beetles, found in Horse-dung, is excellent to anoint withal. I think we should not neglect any aromack Oyls, such as Oyl of Turpentine, Spike and Amber, all which assuage Convulsions, especially if they be joyned with volatil Salts. As for Fats of Eels, Man, Duck and Goose, in as much as they rather obstruct than open the Pores of the Skin, I think they should be omitted, and I far prefer before them spirituuous things mixt with oily ones, to wit, our topical, convulsive Spirit, which follows, and may be added to the Internal Cure.

Take of Spirit of Arts, Worms, Beetles, Sows, &c. which are likewise good externally.

As for chirurgical Means, we must use Venesection with Caution, and unless there be a *Plethora*, I think it were best to omit it. But lest any thing necessary should be omitted, Cupping may supply it, either dry or scarified and the Glasses must be set near to the convulse Part. I reject Blisters, Issues, *Dropaces* and Sinapisms, and instead thereof use paregorick and nervine Medecines; of which we have said enough. Frications are very good in this Case, because they pull back the Valves, especially if they be performed with the following, or some such Liniment.

Take of Oyl of Earthworms one Ounce, Nutmegs by expression, Majoran, Cloves each half a Scruple, *Venice Treacle* two Drachms, Saffron one Scruple. Mix them

on a good fire. Anoint the Spine and Neck.

In a windy Spasm this following is best of all.

Take of Treacle one Drachm, Spirit of Juniper two Drachms. Mix them. Or,

Take of Goose grease fresh two Ounces, Oyl of Cloves six Drops, Cinnamon three Drops. Mix them.

In a trembling, for Outward Application;

Take of *Aqua ad articulos* two Ounces and an half, Spirit of Worms one Ounce and an half, Ants six Drachms, Essence of Castor three Drachms. Mix them.

CHAP.

C H A P. XIII.

Of the Incubus, or Night-Mare.

§. I.

AN *Incubus* (ab *incumbendo* from lying upon, ἐπιβάτης ἀπὸ τῆ ἐπιβάλλεσθαι, from leaping upon; some call it a *Nocturnal Asthma*, ἐκβολή, or *Invasion*; *Piso* calls it a *Nocturnal Suffocation* or *Suppression*; the English term it *the Night Mare*) is a Disease, wherein a man thinks himself smothered by a great weight lying upon him in his Sleep (therefore *Sylvius lib. 2. Prax. cap. 25. §. 27.* calls it a kind of *Dream*) with a great difficulty of speaking and breathing. The common people think this Disease is caused by some Devil or Spirit leaping upon a man, and so they have made the *Fauni* and *Satyri* Authors of this Disease; concerning which *Casspar Scotus lib. 1. Phys. curios. c. 21* is worth ones reading. *St. Augustine lib. 15. de civitate Dei* makes mention of them. And so *Pliny lib. 25. c. 4.* calls this Disease *Iudibria Faunorum*: But this opinion is refuted by *Willis c. 6.*

de Incubis, as false and ridiculous. So likewise *Aërius* from *Possidonius l. 6. 12.* writes, That an *Incubus* is not a Devil, but rather a forerunner of the falling Sickness, Phrensy or Apoplexy. We shall therefore pass by these Fictions of the Devil, and discourse of that *Incubus* which proceeds from natural Causes preternaturally disposed. As I am writing these things, there comes into my Mind, a rare Case very proper to illustrate the Definition I have given, of a certain Man, who every night while he is asleep, finds a sensible sucking of his Paps, just as if a Child were sucking a Woman's Breast, and which was most admirable to me, his Nipples swelled upon it, which one shall not ordinarily meet with in the masculine Sex; and whenever he feels this sucking he cannot wake. Now it is as clear as the Sun, from the definition laid down, that it is a sort of *Incubus*, since breathing is hindered and a weight felt lying upon him; of which we shall give a
Rea-

Reason when we come to the Causes.

Definition.

AN *Incubus* therefore, if a man would be exact, is an extreme diminution of Animal Motion in parts serving for Speech and Respiration, especially of those Nerves they call Phrenick and Recurrent, depending upon the stoppage of the Spirits influx through them, with a false imagination of a heavy weight lying like a Ghost upon a Man's Breast. It comes most usually in ones sleep; yet there is a rare instance of one that came upon a Professor of Divinity, while he was awake, in *Smerius Miscellan. lib. 10.* and another of *Masfarias in Rhodius, cent. 1. obs. 54.* It comes generally when the Stomach is full of hard Meats, and when one lies on his back. In persons predisposed to it, when they awake their morive Faculty returns, a Pain, Anxiety and Palpitation of the Heart remaining, and oftentimes also a quick and violent Vibration of the Diaphragm.

§. 2. Part affected.

THE Ancients think, That here sometimes the parts of the Brain, sometimes of the Breast, are affected, because they hold, That all Sense and Motion proceed from the Brain, as from the Seat of the Animal Spirits, and the Beginning of the Nerves. And *Willis* observing this, although he will have the *Præcordia* truly to be affected; yet he proves by many Arguments, That the Seat of an *Incubus* is in the *Cerebellum*, where

the first Spring of Animal Spirits is, especially because by the Animal Spirits being tied or suppressed in the *Cerebellum*, a failure of them is caused as to the exercise of the vital Function. *Helmont* in this, as in all other soporous Diseases, blames the *Præcordia*. Some Practitioners make the Brain and its hind passages, which tend to the spinal Marrow, the primary Subject of this Disease. But *Willis* blame the *Cerebellum* with its passages, in which the Animal Spirits run up and down, and here especially the Nerves arising from thence, called Phrenick and Recurrent, which govern the Animal Spirits in the Breast, and serve for Respiration. For in an *Incubus* the Brain is not affected alone, but the mischief lies rather in the Muscles and Nerves, that serve for Respiration. *Sylvius* therefore makes no scruple to rank this Disease among *Asthma's*, and *Platerus præc. l. 1. c. 4.* and *Willis* in the place fore-quoted acknowledge as much. They verily perswade themselves that the *Præcordia* are affected, in as much as when the Patient is newly awaked, he finds a heaviness in his Breast, and when that is gone, a palpitation and quivering of the Diaphragm, and disorderly Motions succeed. But without all doubt, the Heart, the Lungs, and their Vessels, the Muscles of the Breast, the Diaphragm, the pneumonick Vessels with the nervous Fibres and Glands, and the Organs pertaining to Speech, are affected in this Disease. But if one would but rightly distinguish between the Subject of the Disease and of the Cause, most of the difficulty about this matter might be removed: about which we shall speak more

more fully and accurately, when we come to the Causes.

§. 3. *Diagnostick.*

THOUGH the foresaid Definition contain the greatest share of the pathognomonick Signs, yet the Diagnostick deserves a more Particular Consideration. For according to that of Cicero's, *The foundation of good Counsel is to know the Commonwealth*, so the beginning of Cure is the knowledge of the Disease. In this Disease therefore we feel a weight about the Heart, and imagine it lies upon us. Now this weight and immobility of the Breast and the whole Body proceeds only from stopping of the Influx of the Animal Spirits into the Muscles of the Breast and Heart. For the Blood in the Heart, by reason of the influx of the Animal Spirits being denied, and thereupon the act of Respiration being hindred, and the Motion of the Diaphragm, being, as it were, suspended, cannot move nor be ventilated, but must of necessity stagnate: Then it coagulates, and when it is coagulated, anxieties of Heart, tremblings and other Grievances must needs arise, and though the Patients would call aloud for help, they cannot do it; for sometimes their Speech is abated, sometimes quite lost, because the recurrent Nerves are hurt. A torpid Sense in sleep also attends it, and an imagination of smothering, and as it were of a *Catalepsis* coming upon one. Their Phancy also is disturbed, so that they have an Opinion sometimes that the Devil, some Witch or Giant has or would have carnal y to do with them. Because when the passages of the

Spirits to the Heart are stoppt, they are enraged, return to the Brain, and there form ill *Idæa's*, such as they had formerly conceived of the Devil, Witches, Giants or *Venus*. And this disturbance of Imagination often befalls Witches and Wizards, who are often affected with Illusions of Phancy, like these Dreams, and imagine several things, which they verily think betided them; for instance, that they were in a field, and danced with their King, the Devil, and all his Train. which are nothing more than mere Whimsies, as may appear from hence, That Witches close shut up and asleep in their Chamber, and oftentimes lying by their Husbands, have told in the morning how they were dancing in the fields, when they were never out of their Chamber. But since this is out of our province, we will return to our proper Business. Patients, when they are awake, complain much of a great and heavy weight, and tell of several other things, yet so as that they know their Breath and Speech were stoppt, and the Motion of their Body some way or other hindred. Also when they have done sleeping, they yet feel a palpitation and trembling of the Heart, because when the Heart and Diaphragm have been hindred from their Motion, and sleep is over. afterwards the Spirits coming in greater plenty, and being rendred over active, exceed in the performance of their Office; which Motion of Trepidation and Vibration the Ingenious *Willis* well expresses by a bended Rod's returning to its self by its elastick Motion. In some ephialtick persons, where there is also a scorbutick diserafy of Blood, and prone to Coagulation, there arise
livid

livid and violet coloured Spots. When Men have had several Fits, they complain of a heaviness and swimming in their Head, and of several other little things, which I have not leisure now to enumerate.

§. 4. Cause.

NOW we have done with the Diagnostick, the next thing is the consideration of the Causes, by benefit whereof we may successfully undertake the Cure of sick persons. The Ancients think, That the Cause of this Disease is either cold Phlegm, or melancholick Blood about the *Præcordia* and Veins of the Breast; and they earnestly contend, That gross vapors are elevated to the Brain from the foresaid Humors, and that the Passages of the Breath are stoppt by them. For, say they, whenever many crude vapors arise from surfeiting or bad Meat, not well digested in the Stomach, or from any of the first Ways, and the *Hypochondria*, then the Breast and Diaphragm are oppress'd, upon which a Man can scarce breathe, but fears he shall be smothered; which vapors (so they love to talk) are sent to the Brain; and then they persuade themselves the Mind it self is disturbed, and clouded with sad *Spectra*.

§. 5.

THE *Paracelsists* and others of their gang do here, as in other soporous Diseases, blame a narcotick Sulphur, and narcotick Vapors, that obstruct the Phrenick and Recurrent Nerves, and fix the Animal Spirits.

§. 6.

HELMONT rejects all gross Vapors of the ignorant Academicks, and proves, That rather the Action of the regiment of the dumvirate, namely some impediment in the Stomach, by its vital regiment alone, without Vapors and Fumes, to disturb the Brain and Nerves, vitiates the first Conceptions, as it interrupts the comforts of the Spleen.

§. 7.

THE Famous *Willis* makes the immediate, proximate Cause of this Disease to be the hindrance of the influx of the Animal Spirits into the *Præcordia*; and the mediate Cause to be some incongruous Matter, instilled with the nervous Juice into the *Cerebellum*, which creates a stupefaction of the Spirits in their first Source, and immediately compels them to cease a little from the performance of their Functions. And he derives that weight on the Breast from the Blood's stagnating a while in the Heart, and he solves the inability of Motion, by the irradiation of the Animal Spirits being hindred.

§. 8.

THE diligent *Sylvius* makes the primary Cause to be Vapors, causing a slight stupefaction, and occasioning a small *Delirium*. And thus he will have the Cause of an *Incubus* wholly to proceed from a corporeal Fault, and by no means from the Soul.

§. 9.

§. 9.

Cartes agrees with the rest of the reformed Philosophers, and owns, That the influx of the Animal Spirits into the Nerves and Muscles allotted to the Organs of Respiration, is the immediate Cause of this Disease. For in sleep, if the Animal Spirits flow not into the Muscles, the Soul judges in such a Case according to Custom, as if a weight lay upon one, and hindred the free Motion of the Diaphragm. Choking comes, when the Spirits flow not freely into the Muscles of the Jaws; for then they fall together, and so cause strangling. Spirits also fail when the Circulation of the Blood is hindred; and when the Spirits do not flow into the Muscles of the breast, its Motion must necessarily cease, as Sails flag for want of Wind. And they think, that this Disease comes, when some gross Vapor has filled the *Abdomen*, which cannot get out for its thickness, but when it is heated distends the whole *Abdomen*, which presses so upon the Diaphragm, that it cannot play downwards, especially in sleep, where the influx of Animal Spirits is small. And also when the *Abdomen* does not play, little Air gets into the Lungs, so the Blood is not cooled as it used to be, but is carried hot to the left Ventricle of the Heart; here-upon the Ebullition is greater, and more gushes into the Arteries, and so more than usual is carried to the Head, whereby the Spirits are moved disorderly in the Brain, and represent confused Imaginations to the Soul.

§. 10.

NOW you shall have my own Opinion. And I think, the immediate Cause of this Disease is, A stoppage of the Influx of the Animal Spirits; not total, for then it would be an Apoplexy; but an impediment of the Influx, lying not so much in the original as in the insertion of the Phrenick and Recurrent Nerves, that tend to the Diaphragm, whence a dangerous Stagnation of the Blood in the *Præcordia* proceeds. For unless it moves it grows acid. This is the Cause of an excessive Acid, that known *Coagulum* of the Blood, which is often the sole Author of this Disease. There is an ataxy in the Spirits; whose activity is checkt by crude, acid, chill, chylous parts, communicated by abundance of Crude, sowre Chyle to the Blood and spirituous Liquor. Wherefore this Disease happens usually after eating Meats that are improper, difficult of fermentation, sowre, salt, and full of fixt Particles; especially if the Blood be as full of heterogeneous saline fixt Particles that obstruct the foresaid Nerves. Hence Children are oftner troubled with this Disease than grown Persons; because they suck greedily, and are more voracious; in as much as any Aliment, by reason of a vitious Acid residing in the Stomach, is easily corrupted, and crude Matter is offered to the Blood. And this Disease in grown persons also arises generally from Error in Diet; thus, if through bad and hard Food the body abound with gross Humors, horrid Dreams, Goblins, Witches, Harpy's, gasty Faces and Monsters present

present themselves; sometimes one is at Law with his Adversary, sometimes in Combat, Houses are on fire, a Man thinks he is tumbling in the Dirt, and that he has a weight upon him, or that he is hanging in some high and dangerous place. Persons predisposed to this Disease are subject to it in some certain posture of lying, that is, on their Back; the reason is this, because in such a posture the pneumatick Nerves and Muscles are sometimes straitned and compressed, and then the Animal Spirits cannot flow into the Breast and Diaphragm, upon which this Disease must of necessity ensue. Remotely also a viscid and coagulated Blood, which clogs and obstructs the Lungs and Nerves, and creates trouble to the Spirits, may contribute to it.

§. II. Cause.

THe nature of the *Incubus* and of the Patient determine the Prognostick. An *Incubus* is seldom mortal. Children and such as use a gross Diet, are more subject to it than grown persons and such as use a thin one. If other Diseases of the Head have preceeded, and if the Fit return often, then it threatens either an Apoplexy, Convulsion or Epilepsy, and sometimes Madness, hypochondriack Melancholy, or sudden Death. For several have been carried off by this Disease, while they were asleep in manner of a suffocative Catarrh. If it grow worse, and if it take a Man in the night, either waking or asleep, if after he is awake a Convulsion or Swooning follow, or if cold sweats and trembling of the Heart come, it is a bad sign.

§. 12. Dietetick Cure.

IN the dietetick Cure the *Air* has the first place. And in this Disease a hot and clear one must be chosen; but a cold one, which stops and straitens all the Pores must be avoided.

The *Meat* must be of laudable Nourishment. For if such be eaten, if the Stomach do its office aright, and if it send the Juice of the pure Aliment to make Blood, pure Spirits of life are bred, which then being carried to the Brain by the Conduits of the Carotid Arteries, yield matter for the Animal Spirits, which going thence by the Nerves into the whole Body; govern Sense and Motion, Imagination and Understanding. If therefore a gross and seculent Blood come from bad Food; if fermentation be frustrated in hard Meat, impure Spirits arise from the Heart into the Brain, which overthrow the state both of the Mind and Body. In this Disease especially forbear immoderate eating.

Let the *Drink* be small *Neccarine* or *Moselle* Wine, or *Hirstein* or *Michelbach* Wine; or Beer well boyled, wrought and settled.

*Non acidum sapiat cerevisia, sit bene clara,
Ex granis sit colla bonis, satis ac veterata.*

Forbear drinking of Water; for a thick and troubled Water is very prejudicial to Health, it breeds Phlegm, and sometimes causes an *Incubus*. Therefore the Fens and Marshes of *Holland* must needs be guilty of a great deal of Sickness, where the Waters look troubled, and

and are of an ingrateful Taste and Smell, or frozen all Winter, and boyling hot all Summer, and always standing still. Nor is Rain-Water, kept in Cisterns, much wholsomer, it being infamous for breeding of Worms. And I make no question, but abundance of Inconveniences arise from drinking of Water. For I have often met with this Disease among Country People, and I ascribe it much to drinking of Water. For according to this Verse;

*Potus aqua sumptus comedit in-
commoda praestat,*

*Hinc friget stomachus, crudus &
inde cibus.*

The most spirituous things do most refresh the Body; and so drinking of Wine is most wholsom, according to the following Verse.

*Vina bibant homines; animalia cate-
ra fontes,*

*Absit ab humano pectore potus a-
qua.*

For Wine, because it easily turns to the nature of Blood, the Aliment being carried into every part of the Body, breeds Spirits that are clear, and not thick, restores them, when dull and languid, strengthens the Heart, cheers the Mind, and quickens the Understanding and Senses.

Let Motion and Rest be moderate, otherwise they may occasion this Disease, since by too much Motion the Spirits are dissipated, the solid parts are consumed, and preposterous, crude Chyle distributed to the Blood. For it forces the Chyle, before it be well dige-

sted, out of the Stomach into the Guts, and out of them into the lactical Veins and Glands of the Mesentery, and in this manner it breeds Crudities, from which innumerable Diseases, especially this of ours, proceed.

Moderate Sleeping and Watching are commendable. Sleeping in the day, especially after Meat, and lying on ones back is hurtful. Watching if it exceed bounds, dissipates the Spirits and breeds Crudities.

The Excrements of the Belly, the Menstrua, and other ordinary Evacuations, must correspond to Art or Nature, otherwise they might greatly incommode our Health.

The Mind must be kept quiet; on the contrary Cares must be avoided, and Grief and Fear, by which the Animal Spirits are diverted from performing their Functions, and the Motion, especially of the Praecordia and Heart fails; as any one, who has seen ought in Physick, may observe.

§. 13. Pharmaceutick Cure.

Let us now see, what the old Practitioners will say, who perform the Cure of this Disease, after their usual manner, with Preparers; such as Syrup, French Lavender, Mint, Oxymel simple, Water of Wormwood, Marjoram, Bugloss, Fumitory, a Decoction of Roots of Fenil, Parsly, Rosemary, Spleenwort, Maiden-hair, Flowers of Violet, Bark of Caper Root, Liquorice, &c. They use these last, when they find the Patient abounds with Phlegm; and Syrups of Fumitory, Apples, &c. when Melancholy abounds. Then they use Evacua-
tors,

tors, which are *Pilula cochia, de agarico, mastichina, de lapide Lazuli, hiera picra Galeni, cassia fistula, diacatholicon, diasenna*. They admit of bleeding, if the Body be plethorick, or if the *Menses* or *Hæmorrhoids* be retained contrary to Custom; and the thicker they find the Blood, the more they take away: They use to bleed a Vein under the Tongue or in the Forehead. Afterwards they fly to Revellents, such as sharp Clysters, Cupping-Glasses set to the Thighs, opening the *Hæmorrhoids*, rubbing and combing the Head, gentle Errhines, Gargarisms, Apophlegmatisms, Sternutatories, &c. Things that hinder Vapors from ascending, are, according to them, *Diarrhodon Abbaris, diamargariton frigidum*. Sugar of Roses, Coral, &c. Then they conclude the Cure with Strengtheners, to wit, Treacle, Mithridate, *Diamoschu dulce, Dianthos*, Conserve of Rosemary-Flowers, Bugloss, Seeds and Roots of Peony, Nutmeg. They magnify anointing of the Head, Breast and Stomach with Oyl of Chamomil, Dill, and Wine hot. They advise also the applying of a *Dropax*, made of five parts Pitch, and one Oyl of Spike or Mastich. They commend Bags made of Flowers of Bugloss, Violets, Roses. Leaves of Baum, &c. which may be besprinkled with white Wine and Baum-Water, moderately warm. A Cap may be made of leaves of Betony, Marjoram, Flowers of Rosemary, Red Roses, Cloves, Nutmeg, Cypress-Root, &c.

§. 14.

Petracellus and his Followers use to cure an Apoplexy, a Palsy and this Disease all in a manner the same way; and to that purpose they give several Purges, to wit, Extract of black Hellebore, *Pauchymagogum Croctii, &c.* At length, when the peccant Matter of the *Incubus* is cast out, they fly to spirituous, strengthening things; they especially extol *Aurum potable*, Oyl of Amber, Pepper and Juniper, inwardly and outwardly; and there are several other things which are sufficiently recounted before in soporiferous Diseases:

§. 15.

Element, because he thinks the Cause of this Disease lies in the Stomach, advises to vomiting, that the Crudities of the Stomach, arising from Surfeiting or any other Cause, may be cast off. The Patient should be presently awakened in the Paroxysm, then the *Incubus* ceases, and the *Archæus* has his desire.

§. 16.

Aulus commends Cephalicks, Nervines, and other Medicines, such as Amber, Coral, Pearl, Peony Root; also Electuaries, distilled Waters, Tinctures, Elixirs, &c. sufficiently enumerated in the former Chapters. He would have Children, that are at any time troubled with this Disease, wear Coral and Peony Roots and Seeds about their Neck, or upon the pit of their Stomach.

§. 17.

§. 17.

Sylvius, that Successful Practitioner, takes the Cure of the *Incubus* to consist, 1. In the Correction of the Bile, that has a narcotick Faculty in it. 2. In the Correction of thick Phlegm, and the austere Humor, whether it be the pancreatick Juice, or any other that produces noxious Exhalations. 3. In the Discussion of austere bilious Humors, that arise in the time of the Fit. 4. In the Interruption of sleep. Things that correct the narcotick Virtue of the Bile, are acid, but spirituous, such as Spirit of Nitre, as well pure as sweet, Medicines of Castor, Vinegar, &c. For inciding thick Phlegm, correcting any austere Humors, and discussing austere bilious Humors, he commends all volatil Salts. For the Interruption of Sleep, he advises talking of the by-standers with the Patient, if at any time one find by Signs and Commotions, that a Fit is coming.

§. 18.

The Cartesian Indications are satisfied by volatil things, joyned with other spirituous things, aromatics, and several hard things, which may incide and extenuate, and so remove the Obstruction of the Pores of the Diaphragm, which we shall not here insist upon.

§. 19.

We shall now give you succinctly our own Method of Cure. In the time of our Practice we have had only three *epileptick* Persons to cure. While

the Fit lasts therefore, we order the Patient to be awaked; then we give him things, to remove Obstructions in the passages, that is, in the phrenick Nerves; things to excite and recreate the Animal Spirits, which burning volatil Spirits do above all other things, and volatil saline Spirits joyned with volatil oily Salts, which sometimes do wonders, while they rouse our drowsy Spirits, and recal them from going some whither else; which volatil things maintain all moderate Fermentation of the Blood, and create fresh Spirits. Here is a process:

Take of rectified Spirit of Wine two Pounds, the purest Salt of Tartar four Ounces. Draw off a Spirit by Destillation; to which, when it is duly exalted, add as much aromatick Oyl, to wit, of Cinnamon, Mace, Fenil, Amber, &c. as it will soak up. Then add a little *Sal Ammoniack*.
Or,

Take of rectified Spirit of Wine tartarizate six Ounces, Oyl of Mace, Amber each three Drachms. Let them stand mixt for a while, till the Spirits have soaked up the Oyls. Then add of Spirit of *Sal Ammoniack* two Ounces. Destil them in a long Bolt head in Sand and keep them for use. This may serve for a Receipt;

Take of Cinnamon Water one Ounce and an half, *Aqua apoplectica* one Ounce, *Spiritus noster oleosus* half a Drachm, Syrup of Cinnamon half an Ounce. Mix them. Take a spoonful at a time. Or,

Take

Take of Conserve of Peony Flowers, Rosemary Flowers each one Drachm, Volatil Salt of Harts-horn six Grains, Magistery of Amber three Grains. Mix them. Make a Bolus. Take it Morning and Evening.

A Decoction of the Woods, with some Spirit of Sal Ammoniack drop'd into it, is excellent good. Cinnamon Water, adding a little Amber, does the business in this Disease.

For removing the stagnation of the Blood, arising from an acid coagulum in it, these foresaid Medicines are excellent, in as much as they correct an Acid, and quickly dissolve the Blood. And this intention is best satisfied by Spirit of Sal Ammoniack, that pure Volatil alkali, if about one Scruple of it be given in some proper Vehicle: Spirit of Harts-horn, Soot, *spiritus oleosus noster*, or *spiritus salis Ammoniaci succinatus* are good. *Sperma ceti* likewise is an excellent Remedy in this case. And there are several other things that are good to dissolve the coagulum of the Blood, which we mentioned in the Chapter of the Apoplexy.

I never used Blood-letting, unless in a great Oppression of the Heart. But if I feared Choaking or an Apoplexy, I used it, and only then. If an incubus come from Obstruction of the Menstr, then I advise breathing of a Vein; Cupping-Glasses, or Leeches may serve instead thereof.

Out of the Fit I recommend Vomits of an Infusion of Antimony, or *Tartarum emeticum Mysiechri*, or *Ludovicianum*, or our emetick Wine, as things whose effects answered my end, and that evacuate vitious, crude Humors lodged in the Stomach. But if for some reason or other we

cannot give those things; then we may give the following Purge.

Take of Mass. pil. aloëphant. half a Drachm, Magistery of Amber three Grains, Oyl of Rosemary Flowers two Grains. Mix them. Make them into fifteen Pills.

After these let the Patient take the following mixture.

Take of *spiritus salis Ammoniaci succinatus*, Spirit of Harts-horn each half a Drachm, *spiritus oleosus noster* one Scruple, Water of Sage, Rosemary each one Ounce. Mix them for three Doses.

An Emulsion may be made of Seeds of Peony and *Nigella* for the time of sleep; to which prepared Emerald one Drachm may be added.

If the Disease come through some fault in the Stomach, or error in Diet, I prescribe this following Stomach Powder of *Guldenelce*.

Take of Seeds of Coriander prepared six Drachms, Peony one Drachm and an half, Cinnamon, Mace, Cloves each one Scruple, red Coral prepared one Drachm, distilled Oyl of Caraway eleven Grains, of Nutmeg seven Grains, *rutula manus christi perlata* two Ounces and an half. Mix them. Make a Powder. Or,

Take of *pulvis stomachalis bezoardicus* three Drachms, Coriander prepared one Drachm, *facula pao-nia* half a drachm, Emerald prepared one Scruple. Mix them.

Towards Evening let the Patient take a little Wine, or *aqua visa Marshioli*,

thioli, or Spirit of Wine. Mineral and Bath Waters, drunk according to the Rules of Physick, have often cured People. Nor should we neglect Errhines, Apophlegmatisms, Frictions, Scarifications, Leeches, &c. I use, Morning and Evening going to bed, to give, and that with good success. *Sennertus* his Electuary called *pleres archonticum*, with *confectio alhermes* and Amber.

Outward Applications, such as the fat of a Wolf or Frogs anointed on the Breast, are of no small use; also other Oyly, Aromatick and Spirituous things are effectual, outwardly applied. It was revealed to us as a Secret, That a Swallow's head worn about ones Neck, keeps off this Disease. A spirituous Plaster

applied to the Navil will be very proper in this case, as also destilled Oyls of Lavander, Caraway, &c. are; or a bag of common Salt, steeped Wheat and Chamomil Flowers may be applied. The Belly may be anointed with Oyl of Nutmeg, by expression, or with the following liniment.

Take of *unguentum alabastrinum* two Ounces, Treacle five Scruples, fixt Salt sixteen Grains, the best Saffron half a Scruple, Oyl of Caraway, Balsam of Peru each eight Grains. Mix them.

For the rich you may add Musk and Amber. For Women, instead of sweet scented things, you may take half a Scruple of Oyl of Castor.

CHAP.

C H A P. XIV.

Of Catarrhs.

§. I.

AT length we are happily arrived at our Port, that is, the last Disease of the Head, namely a Catarrh. By a Catarrh the Ancients understood a Destillation and Defluxion of Humors from the Head and Brain into the lower Parts of the Body. For *Galen's* ridiculous Opinion is, That the Head is as it were a roof placed over a hot House, that receives the Vapors, and all the fuliginous Excrements, which are gradually carried from the Parts below, where they are, like Clouds in the Air, condensed by the coldness of the Brain, and at length being dissolved by the heat of the Spirits, shewre down like rain on the Parts below. Wherefore the *Greeks* call this Disease Κατάρροϋ, that is, a Defluxion or Destillation. It is defined to be, an Evacuation of the Lympha or vitious Serum, in any Part of the Body, but especially in the Head, which by remaining there grows sowre, cragulates and causes Pain, either with or without Swelling.

Division.

IT is commonly held, That there are four sorts of Catarrhs. 1. When the Excrements of the Brain run into the Mouth and other Parts, it is called by the general name, and by way of excellence, a Catarrh, 2. When sharp, serous Matter runs to the Nose, it is called Κόρυζα, gravedo, or running at the Nose. 3. If it fall upon the Throat and aspera arteria, it is called βράγχος, raucedo, or hoarseness. 4. But if the evacuated lymph fall on the Breast, then it is called rheuma, or a rheum, according to these Verses :

*Si fluat ad pectus, dicatur rheuma catarrhus,
Ad fauces, branchos, ad naves esto coryza.*

If a vicious, polluted Serum fall into the Eyes, it causes an Ophthalmia; if into the Ears, tingling and thickness of hearing; if into the Jaws, the Tooth-ach; if it fall into the Neck Shoulders, Arms, or other Parts, it causes Pains, and sometimes Swelling in them; if upon the Origination of the Nerves,

O 3 Trembling

Trembling and the Apoplexy; if upon the Lungs, an *asthma*, Peripneumony, Cough and Consumption; if upon the Stomach, a Corruption of the Ferment, Crudity, Nauseousness, and Loss of Appetite. And it is able to raise a thousand other Diseases. We speak all these things according to vulgar Acceptations; but if we would be exact, in propriety of speaking, the evasated Serum comes not always from the Head; but as it is diffused through all Parts of the Body, it may break out of any Part, as out of its place of residence.

§. 2. Part affected.

BY the unanimous consent of all Physicians, the Part affected is the Brain, called the fountain of Phlegm by venerable Antiquity, and consequently of Catarrhs. They prove, That the Brain is the Seat of this Disease, from hence, for that there is an Head-ach and Vertigo, the *os cribiforme* is stop'd, and Mens sleep is disturbed with troublesome Dreams. And more particularly they blame the Ventricles of the Brain, as some of the Moderns accuse the *glandula pincalis*, other the *pituitaria*. Some of these take the Glands discovered by *Malpighius*, *Wharton*, and others, for the Part affected; a few of them take the Glands of the *plexus choroides*, which prepare the vicious, acido-saline Humor, for the Part affected. We in this case believe, that not only the Brain, but chiefly all Parts that abound with Glands and lymphatick Vessels, both in the Brain and all over the Body, are over-flowed; and inasmuch as they are too full of serum, we take them for the Part affected, which when through any

Cause they are burst or distended, the Brain and all other Parts are on float, and the Pores are obstructed. Concerning this see *Helmont de Delir. Ontarrh.* and the noble *Waldsheimidius*, our sworn friend, in his *Disputatio Astrolg. Med.* who there discourses rationally and ingeniously. For we see all day long, how in a *coriza* the *lymph*a is voided out of the tubulated insertions of the mammillary Processes by the *os cribrosum*, through a pretty broad passage on either side, beginning a little above the *infundibulum*, ending in the tubulated Corpuscles of the said Processes, and tending to the spongy Bodies of the Nose.

§. 3. Diagnostick.

A Catarrh (that we may come to the Diagnostick) betrayes it self by abundant Sneezing, Heaviness of the Head, Deadness and Dullness of the Senses, and sometimes by the Head-ach and Spitting more than usual. In a *coriza* either the holes in the *os ethmoides* are stop'd; or a thin, sometimes a thick *lymph*a runs at the Nose like Water. In a *branchus* there is hoarseness of Voice, roughness in the Throat, and oftentimes a Cough. When the *lymph*a therefore is superabundant in its Vessels, then it is voided partly by the Nose, as was said, partly by the Palate, sometimes (but seldom) by the Ears, sometimes also by the Eyes. Oftentimes likewise a domestick serum overflows (not coming from the Head) in the Lungs, in which there is a Cough or an *Asthma*. And since no Part in the whole Body of Man is without lymphatick Vessels, so likewise no Part can be free from the reception of this limpid Water. For
while

while these lymphatick Vessels are overmuch distended, the Water either grows thick or sharp, and discharges it self on this or the other Part; or by little and little it makes its way by its Acrimony and Saltiness to the external Parts of the Body under it. Then this aculeated *lymph*a makes breaches, hence a Pain and Swelling arise either in the Side, Loins, Arms, Shoulders, Eyes, Teeth, Kidneys, Hips, Legs or several Joints, that is, by reason of Solution of Continuity in those Parts. From the concomitant Humor also a Catarrh is called, either hot or cold: for when a thick, or viscid Humor, having little or no fixt Salt, is precipitated, we say it is a cold Catarrh, in which only a dull Pain is felt; but if a Salt be mixt with it, which by its rigidity and sharpness, as it clings to the nervous *meanders* of the Tubes, produces a rending or pricking Pain, we call it a hot Catarrh. For unless the pointed Particles of one Body did not agree with the Pores of another, but aimed always at the same end, no such Pain could arise. For the Figurists (or mechanical Philosophers) do well explain the uniformity of Motion by the *simile* of Teeth and serrated Points in clocks; for instance, as the Teeth of one wheel do exactly fill the interstice of the Teeth in another Wheel, that is, as the Points of one Body correspond to the Pores of another; so these things seriously considered, as certain a knowledge about natural Actions is derived from these schematisms, the true Symbolles of Actions, as we can certainly know by the hand of a Dial, annex to the Wheels, what hour of the day it is; not because the Wheels are of Gold or Steel, that

is (if it be applied to the Particles of Bodies) these vitious Particles do not act, because they are salt, acid, &c. much less because they are hot or cold; but because they are this or that way figured, in such or such order, of such a quantity, &c. For the stress of the business lies in this. We may therefore in a safe sense call a Catarrh hot, inasmuch as the Blood or *serum* are sharp, or are made so by the Air, or inasmuch as the rest of the balsamick Particles are sharp, acuminate rigid & like to pointed Pyramids. Whence it cannot otherwise be but these Particles, being so figured, must cause a Solution of Continuity and Pain. One may therefore know a hot, (that is, a sharp) Catarrh by a sense of heat, itching of the Parts, frequent sneezing, sharp, bitter or salt taste, redness of Eyes and Face, &c. And one may know a cold (that is, a styptick) by the thickness and clamminess or heaviness of the *lymph*a, and by a sense of coldness. These are the chief Signs of the vitious predominant Humor, which are comprehended in these following Verses of *Franc. du Porta lib. 2. de sig. morborum.*

—*Quum pituita movet malefana catarrhum,*
Frigus inest capiti, facies fit pallida,
murmur
Vox ciet, & sapor est, urinaque crudior
exit,
Mens stupet & sensus, motus torpore
tenetur.

The evasation of a vitious *serum* upon a Part may presently be known by a prudent Physician; because the Part immediately shows it by Pain and Inflammation, sometimes

by swelling, and there is a Fever. For a Catarrh seldom afflicts a Man, when there is no Fever with it, which consists in a disturbed mixture of the Blood, or in its excessive thickness, caused by an over salt serum: for a foreign Salt communicated to the Blood, makes a different Motion, and thereby easily disturbs the mixture, and causes a Fever.

§. 4. Cause.

THIS was the Diagnostick, now we will walk out into the pleasant field of Causes. The Ancients explain the proximate cause of this Disease, by a destillation or defluxion of Humors from the Head to the Parts below, by way of *simile*, that is, of Vapors elevated from the lower Parts to the Head, and there condensed into Water and dissolved; for instance, If you consider the destillation of Water, or boiling of it in a Pot, Vapors are elevated to the Cover, and there condensed into drops; even so in Man they call the Stomach the Pot, and the Head its Cover. If therefore the Stomach be heated by the Liver, after their way of arguing, Vapors must be sent to the Head. They say also, That a cold and moist intemperature of Brain promotes it much: for the Brain, so disposed, is not able rightly to digest the aliment, which is sent to it, and so many superfluities, and a great stock of excrements are gathered; these Humors and Vapors being condensed, at length are thrust to the Parts below, where they cause sometimes a Swelling, sometimes Pain. Wherefore the Season of the year, an improper way of living, surfeiting, excessive repletion,

immoderate sleep, sudden cooling of the Head after sweating in a Bath or Hot-house, heat of the Sun, Moon-beams falling upon the Head, South and North Winds, an unusual Slink, unseasonable Watching, and night Studies, are remote Causes.

§. 5.

THE Paracelsists prove, That this Disease is saline and tartareous. A tartareous Spirit, according to them, ascends in a dry or liquid steam, which at length is a little coagulated in the Brain: for there are coagulating mineral Fumes in the Brain, which *Paracelsus tract. 2. lib. 2. de morb. metall. cap. 1. de fum. metall.* says are drawn out of the Air by the Nostrils, adding, That as by the heat of the Sun and Stars, and subterranean fires, many Vapors are raised to the middle region of the Air, where by virtue of cold, or (as others will have it) by a saline virtue, they are condensed into clouds, which being dissolved into Water and Rain, fall down both by their weight and natural inclination to Water the earth: So in the microcosm there is the same rise of Meteors, Rain, Snow, Hail, and a perpetual Circulation of the lower and upper Heaven, and a mutual communication of fruits. And here they seem to agree with the Ancients, in that they believe Vapors arise from the lower Parts to the Brain; and are there condensed, as in the head of an alembick; by which sublimation either a salt or sharp Humor falls upon the Parts below.

And since all sorts of Salts are contained in Tartar, that is, Common, Alum, Vitriol, German, Ammoniac, Petre, Alkali, of Vinegar, of Nettle,

Ue, *ſc.* various differences of tartareous Diseases, and therefore of deſtillations ariſe from thence. Alſo according to them Tinctures of Arſenical Spirits are mixt with theſe Salts, from whence come deſtructive deſluxions with exceſſive pain and redneſs. In another place *Paracelfus de modo pharmac. lib. 2. tr. 1.* ſays, That a Catarrh, Rheum, and *Branchus* are excremental ſickneſſes of mucous dung.

§. 6.

THe induſtrious *Helmont* holds, That Catarrhs come, when a ſtrange Air, Scent, Ferment, or an exorick Seed is received into the Spirit upon Motion; then the tainted influent Spirit is excluded by the *Archæus* from the communion of Life, and is ſent to Parts furtheſt off. The *Blas* alſo of the Moon inſpires the Operations of her Viciffitudes upon us, ſhowing themſelves moſt upon a weak Brain and the Membranes. Hence come tedious preſages of alterations of Weather aforehand. This is called the night torture, under which is comprehended whatever goes by the name of Deſluxions and Catarrhs. He will therefore have Catarrhs to ariſe, not from one fountain alone; to wit, Man's head (whence the Schools imagine all Catarrhs do fall) but from the *Idiopathy*, or proper Indispoſition of every Part, cauſed by topical Ferments. He rejects likewiſe the arguments of the Vaporists, and demonſtrates to the Eye in *tract. de Catarrhi delirant.* that it is impoſſible, that theſe Vapors ſhould riſe from the Stomach to the Head. See page 268 of the foreſaid Treatiſe. Nor will he have the *mucus* ariſe

from the ſamed Oriſice of the Stomach, but that it is an uſeleſs excrement bred by an erring guardian. He confeſſes, That in the Gout there is a ſalt excrementitious Liquor, yet ſo, as that *Vulcan* is the ſource, cement and ſewel of it; and not an aſcent of Vapors from the Stomach to the Brain, nor ſeveral Humors, nor a fictitious Deſtillation of Phlegm mixt with bile. Whatever therefore the Schools talk of Vapors ariſing from the Stomach for the matter of the Catarrh, he thinks it is but old Wives Tales: All that comes from the head is *mucus* and mere excrement, but not carried out of the Stomach thither. This *mucus* when the guardian of the Brain is in good order, is white, thick, and viſcid; but when its Powers are diſaffected, the *mucus* is watry, ſharp, ſalt, harſh, yellow, clammy, &c. and runs the neareſt way out of his Baſon or Tunnel. For in a *coryza* the Water that runs out at firſt, is not mere *mucus*, but a ſalt Water, whereby nature endeavours to waſh away, whatever reſts upon the ſpongy bone of the Brain, as a foreign Enemy. As I ſaid, whatever it is that falls down upon the Throat from the Brain, not one drop of it enters the Lungs, but if it ſhould, would endanger ſtrangling. For if but one drop of Water, as one is ſwallowing fall upon the *larynx* unawares, and ſo almoſt choak the drinker, what would not ſuch a quantity of *mucus* do, which in a ſhort ſpace of time now and then would fill Baſons? This noble Author admits indeed of catarrhal Diſeaſes; but he denies the cauſes, means, ways and end of a Catarrh, as the Schools have explained them. So he will have a Conſumption not to be a Deſluxi-

on upon the Lungs, but to arise from some inward fault of the Lungs themselves.

§. 7.

Allis thinks, That in this Disease the *serum* separates from the Blood, and an inundation comes upon the Parts, because a sharp and thin *serum* opens the mouths of the lymphatick Vessels and Glands, upon the *trachea*, or other Muscles or Parts; so that too many serosities are discharged on those Parts, whence he holds, That divers troublesome pains, inflammations, and sharpness of Humors may arise; adding, That afterwards, the *serum* thickning by Coction, sticks to the sides of the *trachea*, and straitens the passages of inspiration. He thinks also, That this ichorous Matter runs out of the lymphaducts or blood Vessels into the Vesicles of the Lungs, and causes shortness of breath, and sometimes a Consumption.

§. 8.

Sylvius thinks the proximate cause of this Disease, to be an excessive abundance of watry, serous Humor, offending in acrimony, saltness and acidity, falling often from the Head upon the Breast, causing divers Catarrhs, and sometimes a Consumption.

§. 9.

The Cartesians supposing that a subtil or æthereal matter, according to the different access and recess of the Sun to and from us, causes various Alterations and Symptoms, do admit of Destillations, ei-

ther upon the Throat, the *aspera arteria*, Palat or Breast, but they explain the manner and ways of Destillation differently from the Ancients. They therefore blame chiefly the salt and sharp Particles of the Blood falling upon any Parts of the Body, holding, That the matter of the Catarrh is not supplied from the Brain, but is immediately carried out of the Blood by the Arteries to those Parts: for they say, That by a catarrhal, that is, a serous and pituitous Matter, latent in the blood, the Pores of the Arteries are day by day enlarged and dilated, out of which then the Blood is poured into the tubes: for our Blood consists of Parts of innumerable Figures and Magnitudes, which according to their Magnitude, Figures and Situation are moved one among another, and variously joyned; whereupon they form divers Pores, and admit of the subtil matter in greater or less quantity, according to the diversity of the Pores. And they endeavour to prove, That the Blood is affected in Catarrhs, by the continual and slow Fever, which usually accompanies them. For they say, when the mixture of the Blood is disturbed, That several sharp Particles are poured into the glandulous Parts, and there offend either in thickness, or acrimony, or a thousand other ways, and irritate the Membranes. And they confirm this by frequent sneezing, a troublesome Cough and Hoarseness.

§. 10.

Thus far, what others think of the cause: this is our own Opinion, That abundance of vicious *serum* abounding in the Body, is evacuated,

evacuated, from which evacuation of a sharp, salt or acid *serum* upon membranous Parts, we derive Pains and Inflammations. For I put it beyond all doubt, That catarrhal Diseases primarily proceed from some fault in the *Lympha*.

We every day see how in cold Weather the *lymph*a is encreased, inasmuch, that is, as the Pores of the Skin are stoppt, and so transpiration is hindred, which must of necessity encrease the *serum*. And all confess, That Catarrhs and Rheumatisms are produced by a sudden stoppage of transpiration, as experience does evince. But if the *serum* have any fixt Salt, either communicated by the Air, or bred in the blood and *serum*, a pricking Pain arises, and the obstruction is encreased, because that stubborn Salt contracts all membranous Parts. And if there be an evacuation of *serum* and a subsequent stagnation about the *præcordia*, then there arises Difficulty of breathing, a Fever, Heaviness of Heart, and present Suffocation, frequent companions of this Disease. I am verily perswaded, that Catarrhs never come from the Head alone, but that there may be a serous evacuation in all Parts: For there are manifest ways, that is, lymphatick Vessels, which are diffused all over the Body, and why are these Vessels torn only in the Head, and not in the Lungs, Neck, Liver, Muscles, *Larynx*? &c. For what use are these Glands, that usually prepare *serum* in several other Parts? Yea, I have discovered by a microscope, That the whole Skin is glandulous, and why should we, who have always our Heads moist with Phlegm, that is, full of coagulated *serum*, yet be very seldom troubled with Catarrhs? Why do we not say, That

a Dropsie comes from the Head? We doubt not therefore any longer, but that catarrhal Diseases do arise primarily, from some fault in the *lymph*a through all Parts. For if the *lymph*a be evacuated out of its Glands and Ducts, it over-spreads the Throat and *aspera arteria*, and by its excessive Acrimony and Acidity excoriates the foresaid Parts, whence Pains, Inflammations and Hoarseness arise, with which they that are taken, complain of a fiery, burning Pain in their Throat. And whereas we said before, that the *lymph*a is encreased by a cold Air, we see it plainly in a *coryza*, which is common almost to all Men; for a cold Air always precedes, which as it passes, hinders insensible transpiration, whereupon the *serum* is made more sharp and acid, and is bred more plentifully in the foresaid places. This *lymph*a, where it finds a passage endeavours to get out all at once, especially if these Vessels be over-filled and distended with drink, as they are usually in great drinkers. If this lymphatick evacuation come in the Throat, hoarseness arises, which I have observed to last a year and longer, and sometimes to go away without a Consumption. If an evacuation of *serum* be made in the Stomach, then the Ferment of the Stomach is spoiled, all the food a Man takes corrupts, then a rough and thick *lymph*a, unfit to digest meat, hinders and spoils fermentation. And frequently, while these lymphatick Vessels are loaden with too much *serum*, it disburdens it self into other places, turns sowre for several days, and by little and little makes its way by its thinness and acrimony into the external Parts of the Body under it, whence divers Ach-

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ches and Pains flow. For there is no part of the Body, but has its lymphæducts, so that the Lungs are not without them; and therefore no Part is free from evasation of *serum*. The ways, by which the catarrhal Humor flows, are principally the lymphatick Vessels, and less principally the sanguiferous Vessels. Here, by the way, we would have it observed, That we do not derive a suffocative Catarrh from *serum*, only evasated in the Lungs, much less, as the Schools would have it, from the Brains showing down upon the Throat, as *Helmont, tract. de Catarrh delirament.* but we rather think it comes from the blood's gushing out, of the ascending and descending Branch of the *vena cava* into the heart, and thence into the Lungs, and its being hindred a little in its Motion; then it begins to stagnate, through an excessive Acid, either bred in the Humors, or brought thither from the lower Parts, especially from an Acid and Austere pancreatick Juice, mixt both with the Blood and *serum*; whence procees danger of choaking and difficulty of breathing, which is of necessity attended with froth, after a frequent but vain reciprocation of the Air; as I learned by experience in a Dog into which, after a drachm of Spirit of Sulphur *per campanam*, diluted with a sufficient quantity of Water, had been infused at the crural Vein, froth appeared after the coagulation of the Blood. From whence it follows, That, if an Acid coagulate the Blood, a suffocative Catarrh must arise in the Lungs, and it is a pulmonary Apoplexy. For we judge, That as an Apoplexy is caused by the hindrance and abolition of the Blood's Motion in the

Brain, so a suffocative Catarrh proceeds from the same Motion being stopt a little in the Lungs and *præcordia*, which Motion of the Blood is hindred by the abundance of Blood, or by its thickness and viscosity, or by obstruction of the Vessels, or by a coagulating Acid; and thence flow Anxieties and Oppression of Heart, Shortness of Breath, and sometimes Abolition, and at length sudden Death. All which things appeared in the opening of one that died of this Disease, who for a year and more was troubled sometimes with a suffocative Catarrh, sometimes with an Apoplexy; but at last he died of a suffocative Catarrh. When we opened his Corps, we found the *abdomen* and the Breast above the *os sternum* so beset with fat, that it was four inches thick. There was no Blood to be found any where but about the Heart and Lungs, and it stagnated there; because the Passages of the Blood were stopt by the Vessels being obstructed with fat. In this pious Man, who died, I would have you observe this by the way, That when he could not breath he found relief by beating and thumping his Breast; the reason whereof is this, That the Motion of the Blood was restored by this Commotion. And *I. G. Grevæ, in Miscell. curios. an. 1. obs. 74.* shews, That there are viscid and glutinous, callous Bodies in all that dye of a suffocative Catarrh, either in the Brain or Heart, and not seldom in both. Undoubtedly in this Disease both the Nerves that pass to the Lungs, and the Pores of the Lungs are obstructed, and hence such a Disease ensues, and a stagnation of Blood; in other sorts of Catarrhs it is certain, that generally

tally the *serum* is evasated, and such effects follow. These things premised, one may easily give a reason of Quinsies, Hoarseness, Running at the Nose, Tooth-ach, and other catarrhal Diseases.

§. 11. Prognostick.

THIS was the explication of the cause, now we will subjoin the Prognostick, in which a Physician had need to be curious. If the Humor which we now call *serum* or *lympa*, destil from the Head upon the Nostrils, the sink of the Brain, the Disease is slight, and over in a few days. If it be evasated in the throat, it is worse; and if upon the Lungs, it is worst of all; for from thence oftentimes an exulceration arises, whence comes a Consumption of the Body. All mild and short Catarrhs, if they be negligently treated, so as to take root, are dangerous. Those that are subject to a Catarrh, are not altogether safe from danger; because they are obnoxious to several other Diseases: for abundance of *serum* threatens an Apoplexy, Palsie, Pleurisy, Blindness, Consumption, Tooth-ach, Quinsie, Deafness, Stoppage in the Bladder or Kidneys, Pain and Weakness of Stomach, *Sciatica*, Gout, &c. Looseness and the Colick. A Catarrh with a continual Head-ach is more difficult to cure, than one without it; for in the former case more abundance of *serum* is denoted. A suffocative Catarrh always threatens imminent danger of death, and kills a Man quickly, just as if he were taken with an Apoplexy. The Autumnal Season is most obnoxious to Catarrhs, because of frequent alterations in Weather. A Catarrh is cal-

led great, which seizes a noble Place. Old Men are easily troubled with Destillations, as *Hippocrates aph. 31. f. 3.* testifies, therefore they are more difficultly cured in such.

§. 12. Dietetick cure.

WE have done one task, now we must go to another, namely the dietetick cure, which consists, as I have often said, in the six Non-natural things, as Physicians call them. Air comes in the forefront, inasmuch as it contains in it self subtil and saline Particles: for the wisest Physicians, and the illustrious *Boyle* tell us, There is a Sale in Air; these saline Particles therefore being peccant in their Motion and Figure, and insinuating themselves into the Mass of Blood and *lympa*, cause our Disease. The Air then must be hot and dry, on the contrary a windy, rainy, northern and southern Air must by all means be avoided. For every one knows what mischief excessive cold does, since thereby transpiration, which is so necessary, is hindered, the *serum* coagulated and stoppt in its Motion, and the Glands of the Skin bound up. And this cold does most harm, when it comes suddenly after great heat, and when it is moist withal. They experience all these things, who live near the Sea or Fens. Let him that is subject to Catarrhs, avoid the Rays of the Sun and Moon.

Meat is next, whose efficacy is great in breeding Humors, and influencing Mens health. Some Meats especially are apt to breed Phlegm, according to *Horace lib. 2. sat. 2.*

Dulcia se in bilem vertent, Stomachique tumultum

Lenta feret pituita; vides, ut pallidus omnis

Cœnâ defurgat dubiâ.

If the Meat be good and laudable, good Blood is bred thereof, which illustrates the Mind and Senses, renders the Affections sedate and quiet, and composes all the Motions of the Mind according to the dictates of reason. But when from bad Food vitious Humors and turbid Spirits, there proceeds a fuliginous Vapor (according to the Ancients) fuming up into the Brain, the Mind contracts much harm, the Senses grow stupid, and many serofities are gathered. The Meat therefore in this Disease must be easy of Concoction, dry, and such as breeds good juice; for instance, potched Eggs, Hen, Capon, Chicken, Partridge, Veal, roasted rather than boyled. It must also be moderate in quantity, the Supper must be more sparing than Dinner; and after Supper some sweet Meats of Quinces will be proper. On the contrary, forbear all Meats that are gross, viscid, difficult of Concoction, cold and moist, such as Onions, Garlick and Cheese, inasmuch as these, and such as these, encrease the stock of Humors. As for drink, it must be moderate, for it is of great Moment in making Blood and Spirits, which, if it be thin, pure and defecate, breeds Blood and Spirits like it self; but if it be thick and crude, it leaves Tokens of its nature in the Body, as drunkards daily testify. Drinking of Well-Water is destructive to Man and Beast, and must be avoided, because it breeds abundance of bad serum.

Sleep must in this case be moderate, not on the day, nor long. The Head must be covered, lest it be hurt by external cold, which is an Enemy to the head, and to other nervous Parts.

Motion must neither offend in excess nor in defect, in this case especially slothful idleness must be avoided, which fills the lymphatick Vessels with abundance of crude Humors.

The Belly and Bladder must be free.

As to the Passions of the Mind, Men must give themselves to Mirth and pleasant Speculations and Meditations. Fear, sadness and despair, inasmuch as they retard the Motion of the Blood and Spirits, and so gather serofities, must be avoided. Cold Baths must be avoided, for they hinder transpiration, and fill the Body with too much serum. Let us leave swimming to fishes, for it is known from Steno's most accurate observation, that those Ducts, by which transfusion is made, are far larger in fishes than in us Men; so that what Water will not hinder in them, it does much hinder in us. Curtius tell us, how much unreasonable swimming endangered Alexander of Macedon: For when he had committed his reeking hot Body to the chill Waters of Cydnus, his Limbs grew stiff, he pale, and the vital Flame had almost forsook him.

§. 13. Pharmaceutick Cure.

Hitherto we have been but skirmishing, now we are come to close fight, that is, to noble Medicines. And first, of such as were in

in use with the Ancients. And they give a Clyster to such as are troubled with a Catarrh, then they make the Humors obedient to Nature. When they have done this, they endeavour to force the peccant Humors out of the Body, by Purgatives and Evacuators. And they are, Electuary or Juice of Roses, *diaprunum*, *diaphenicum*, *pilula aurea*, *massichina*, *cochia*, *de agarico*, &c. *agaricus trochiscatus*, *castia*, *rhubarb*, *polypody*, *electuarium Indum* & *diacatholicon*. If strength permit, or if there be any impending danger of a Quinsie, violent Fever or Suffocation, and the Patient plethorick, they immediately order Bleeding in the Arm. They will have violent Purgers forborn, lest they might irritate the burthenfom Matter to fluxion. At length they try to derive the Catarrh with head-Purgers, Eryrhines, Apophlegmatifms, Sternutatories, actual and potential Cauterics, applied to the fore-part of the Head, and for the same end they raise Blisters. Then they order things to stop the flux of Humors; especially if at the first there be danger of Suffocation from the vehemence of the Catarrh. Things that stop a Catarrh, are these following, *dracodium simplex* & *compositum*, *spec. diapapaveris*, *diatrageanthum frigidum* & *calidum* (to wit, if the Catarrh be cold or hot, for they earnestly contend, That contraries must be cured with contraries) *pilula de cynoglossa*, *loboch de caulibus*, *de papavere*, Bole Armenick, Juice of Liquorish, Violets, Pills of dried Roses, Seed of white Poppy, and Gum Juniper. They will have Spike kept in the Mouth in the Night-time; they make a fumigation of *nigella*, and other aromatick things. They shave the

Head, and apply Oyntment of Roses, and a Plaster of *terra Lemnia*, Roses, Plantain and Bole Armenick. They add such Medicines as may strengthen the Brain, and consume the remainders; these are, *diamoschu dulce*, *diambra*, *species aromatica rosata*, Michridate, Conserve of Sage, Rosemary, Betony, Cypress roots, *stachas*, *gallia moschata*, *lignaloës*, *ladanum* &c. For this end they use to make a Pomander of Cloves, *gallia moschata*, Nutmeg, *styrax*, Calamint, Cubebs, Cinnamon, &c. They make a Cap of leaves of Bay, wild Marjoram, Seeds of *nigella*, *stachas Arabica*, Frankincense, Mastich, Cinnamon, Mace, Nutmeg, Cloves and red Roses. They order bags also of Salt, Millet seed, Bran, and other things, to be applied to the Head. They rub the Head with a rough hot Cloth. Then they extol this following Plaster, applied to the coronal Suture;

Take of Seed of *nigella* roasted one Ounce, Mustard roasted, Frankincense each five Drachms, Mastich three Drachms, Pigeons dung, Barley Flower each one Ounce. With *Oxymel* of Squills make a Plaster according to Art.

I pass by the rest on purpose.

§. 14.

NOW we will hear what the Paracelsus say. And they, to dissolve coagulated Tartar, to coagulate the dissolved, and to reduce them both, use the things following, especially to purge fluxions of the Head, such as Glew, Elder, *Stavesacre*, Saffron, *Hermadaetils*, *Pellitory of Spain*, *Euphorbium* and sal Gemm.

Gemm. *Paracelsus* also, for Melancholy Defluxions, and a hardened Blood, commends Polypody, Hellebore, Spurge, Agarick, which he advises must be carefully prepared and corrected. Moreover, in their Opinion, things that dry up Catarrhs, are Essence of Baum, Moonwort, Clary, lesser Bugloss with the red Flower, which even worn in ones Hat is said to be moistened with the Humors, that it attracts out of the Head. Some for purging, highly extol *tartarum vitriolatum* and *elixir proprietatis*; and for strengthening, Oyl of Amber, which for stopping a Catarrh is reckoned by them very efficacious; also if Powder of Amber be put in a Bag, and heated in Spirit of Malmsey Wine, and besprinkled with a few drops of Oyl of Amber, and applied to the Crown of the Head, it is a thing of great efficacy; or if the Nose and Temples be anointed with Oyl or Balsam of Amber. Some, to stop a Catarrh, fly to Narcoticks and *Laudanum*. They say, that three drops of Oyl of Vitriol given in Mint Water, and repeated several times, do by a specific and singular Virtue waste and dissipate Catarrhs. Spirit of Vitriol, of Tartar, Oyl of Sulphur, Turpentine and *terra sigillata* are said to perform the said effect; Water of Mother of Thyme drawn chymically with Spirit of Wine, is with them a principal Remedy; Oyl of Marjoram, Rosemary, Anise, Fenil, *oleum Lunæ*, Liquors of Sapphire, Emerald, Moss, are cried up by them for their secret Virtue in this Disease.

§. 15.

Helmont cures Catarrhs with divers soporiferous things, as there shall be occasion; and if a foreign acidity with some viscosity come into the Stomach, he doubts not, but Vomits will carry it off. He contemns not ternutatories in this Disease, but orders the Roots of Sow-bread be cut into long slips, and anointed with Oyl of sweet Almonds, and put into the Nostrils. *Grembs* also, *Helmont's* own disciple, makes an effectual Sternutatory of *marum* in this case. The herb must be dried, so as it may retain its greenness, under a leaden Platter, and a green amicable Powder may be made of it.

§. 16.

Ullis, that the serum and other recrements of the Blood, which often cause this Disease, may some way be evacuated, advises the use of Diaphoreticks, Diureticks and gentle Purgers, with this admonition, That when other Remedies are interposed, Blood-letting be not neglected, especially in a suffocative Catarrh; and after it, he uses often to give some gentle Purge, that is, Syrup of Peach-flowers, or of Roses solutive; or *pilula succini, cochina*, &c. Among Diureticks and Sudorificks, he commends Wood-lice, Volatil Salt of Amber, Soot, &c. and other Salts and testaceous Powders, made into Pills with Turpentine. Then he will have the Mouths of the Vessels and Glands, which gape too wide, moderately bound, that they may not void their Serosities over freely on the external Parts: and then he would

would have those Parts smoothed, that they may not be hurt by the effusion of a sharp serum, or by meeting with the external Cold. In the first case Conserve of red Roses, *olibanum*, Mastich, *lobach de pinis*, Syrup of Jujubes and of dried Roses are good; in the latter, he says, that Syrup of Liquorice, Maiden-hair, Marsh-mallows, and other sweet pectoral things is good. He commends chirurgical Remedies, namely Blisters, Cauterics, Frictions, Issues, Leeches and other things, as there shall be occasion.

§. 17.

IN Syllbius his Opinion, if a Catarrh fall upon a noble Part, it must be averted and allayed by all means; therefore salt and subacid Humors must first be corrected, and then carried off with Hydragogues. For correcting the Acrimony of the serum and Humors, he magnifies diuretick and sudorifick Medicines, such as Decoctions of Roots of *China*, *sarsaparilla*, Burdock, *cantrayerva*, Wood of *Guajacum*, *sassafras*, Box, Oak, Juniper, &c. For amending salt Humors he commends *pilula de cynoglossa* & *de styrace*, about five Grains, Gum tragacanth, Mastich, *olibanum*, *styrax*, roots of Liquorice, four greater cold Seeds, Quince, sweet Almonds, Barly, *Opium*, Liquorice Juice inspissated, all fat Earths, Bole Armenick, *terra Lemnia*, *sigillata*, Coral, Pearl, Ashes of Crabs, &c. He will have it, that, to diminish the Humors, Issues may be made with good success. Erhines also evacuate the peccant Humor by the Nose, and likewise avert it from the Throat.

§. 18.

ACCORDING to the Cartesians hypothesis the Indications are taken from the Blood or serum, that is sometimes too thick and viscid, sometimes too thin and sharp. In the beginning therefore gentle Purgers are proper, namely, *pilula de succino*, and other Aloeticks. Vesicatories also, Issues and Scarifications to discharge the Serosities, satisfy these Indications; If a too sharp Matter irritate the membranaceous Fibres too much, Opiales may very well be used, such as *pilula de cynoglossa*, and other things already mentioned, which we shall here forbear to repeat. Besides, oily and fat things are proper, inasmuch as by their softness they involve the Points of a heterogeneous Salt in the Blood; and earthy and gross things, such as Crabs-eyes, *terra sigillata*, Bole; inasmuch as these, and such things as these, do file and turn the pointed Angles of Salts. Gums and glutinous things are proper, which by their gross Particles guard the Habit of the Body against the Acrimony of the Salt. They say, that a Decoction of the Woods is good, inasmuch as it corrects and mends the viscid and sharp Particles of the Blood.

§. 19.

WE proceed thus; We immediately incise the viscid Phlegm, which abounds, and evacuate it. But here observe; that you first of all correct the Acrimony or Acidity of the Blood and lymph. To evacuate it, Hydragogues and Aloeticks are proper; such as *pilula Francosutrenses*,
P
whit

which many call catarrhal Pills. Also a cephalick extract prepared in the manner following.

Take of *Coloquintida* six Drachms, Trochifces of Agarick, *diagrydium rosatum*, black Hellebore prepared, Turbith each half an Ounce, Aloes one Ounce, *species diarrhodon Abbatis* half an Ounce. Put them in a glass Vessel with Spirit of Wine, that it may be eight Inches above. Digest them for ten days in a hot place, afterwards add *species diarrhodon*, and infuse them yet four days longer. Strain them out well, and let the strained Liquor be destilled in *balneo Maria*, till it exhale to a just consistency. The Dose of this Extract is half a Scruple.

Here is a Form for young Beginners.

Take of *extractum cephalicum* eight Grains, Resin of Jalap six Grains, volatil Salt of Amber, Gum *galbanum*, Ammoniack each three Grains, Oyl of Myrrh one drop. Mix them. Make Pills.

Or according to the Galenical way;

In a Decoction of the Woods infuse of Leaves of Senna three Drachms, Aniseed half a Drachm, to the Colature add of Syrup of Roses solutive one Ounce. Mix them.

For an utter consuming of the catarrhous matter, Hartman persuades the use of *pitula de succino Cratonis* every Week in Syrup of Betony, to about half a Drachm, and to take it three hours after Supper for three Months, and I do

not discommend the use of them.

To correct the Acrimony, or Acidity, or Salinets of the Blood and serum, and to cast every foreign Salt out of the Blood, and to restore its due *crasis*, these things are proper, *liquor cornu cervi succinatus*, about seven drops of it in some convenient Liquor, *spiritus salis Ammoniaci anisatus*, that is, if there be a Cough, also *sal volatile succini*, and that excellent Remedy, *Essentia nostra catarrhalis*. Here are some Receipts for younger Physicians.

Take of Water of Mother of Thyme three Ounces, Syrup of Betony one Ounce and an half, Essence of Sassafras-Wood two Drachms. Mix, and give it. Or,

Take of Essence of Sassafras-Wood half an Ounce, of Rosemary Flowers two Drachms. Mix them. The Dose is forty drops. Or,

Take of *essentia nostra catarrhalis*, Spirit of Vitriol, *spiritus cephalicus*, each two Drachms. Mix them. Or,

Take of *guajacum* Wood one Drachm, Tincture of Antimony half a Drachm, *antimonium diaphoreticum* one Drachm, Decoction of *guajacum* Wood three Ounces. Mix them. Make a Sudorifick for three times. Or,

Take of Essence of Amber two Drachms, Spirit of Sal Ammoniac half a Drachm, Oyl of Marjoram, Amber, Anise each two drops. Mix them. Give thirty drops for a Dose.

D.

D. *Tachenius* commends Camphore dissolved in some proper Oyl, for a specifick: Or,

Take of Spirit of Tartar, *Sassafras*, *Guajacum* each one Drachm, *liquor cornu cervi succinatus* half a Drachm, Decoction of *Sassafras* Wood two Ounces. Mix them.

A catarrhal Water of the Woods, is of no mean use. For *Brunnerus* in his Counsels, calls *Sassafras*-Wood a most noble Medicine in all Catarrhs. Here is a Form;

Take of Wood of *Guajacum* three Ounces, *Sassafras* two Ounces, Oak half an Ounce, yellow Saunders five Drachms, Brazil half an Ounce, Root of *Sarsaparilla* one Ounce and an half, *Elecampane* five Drachms, *Liquorice* three Drachms, Bark of *Guajacum* six Drachms. When they are cut, infuse them in Water of Fumitory, Cresses, Scurvy-Grass, Columbine each two Quarts, digest them fourteen hours, and then distil them. The Dose is one Ounce and an half every Morning and Evening.

Next to this is the drinking of *Thea*, and Spirit of wild Thyme, gathered before Sun-rising, distilled off good Wine, several times cohobated, and fresh added. In this Spirit *Sassafras*-Wood ought to be infused, and a catarrhal Essence is made.

Also to correct Catarrhs, and amend the Serum and Blood, *sal volatile oleum Sylvii* and *nostrum*; &c. *aqua benedicta* *srpilli* *Mysichti*, are good. And Spirit of Vitriol is said to be a singular Medicine in drying up all Catarrhs.

If by a too sharp *Lympha*, made so by an excessive cold Air, the *Larynx* be affected, and a dry Cough be raised thereby, and shortness of Breath, with Oppression, because of the Coagulation of the Blood, arise; some *Sperma ceti* must by all means be given in some Broth or Beer. Here follows a Receipt.

Take of *Sperma ceti* one Drachm, prepared Amber, Flowers of *Benzoin* each half a Drachm. Mix them for two Doses, when one goes to Bed. Or,

Take of prepared Amber one Drachm and an half, *species diatrachanthi frigidi* one Drachm, Sugar dissolved in Betony-Water what is sufficient. Make Tablets according to Art.

Opiates also will be very proper, such as new Treacle, *massa pilularum de cynoglossa*, *de styrace*, *theriaca celestis*, &c.

If a Catarrh have seized any Place, and cause much Pain; then the things aforesaid may be joined with Opiates, and a Bag filled with the things following, or with some such like may be applied to the pained Part. Take of the Emollient and Discutient Herbs as much as you will; boyl them in Milk, and apply them. Then we use to conclude the Cure with purging. Diureticks also may be given sometimes, such as Wood-Lice, Crabs-Eyes, Salts, &c. inasmuch as they discharge the abounding serum by Urine: Hence we read in *Riverius*, how Oyl of Scorpions appointed on the Back-bone outwardly did good. Among Externals there are divers Plasters, and among these *Emplastrum cephalicum* *Schroderi*,

Schroderi, & *epilepticum Cratonis* excellent. Mastich with carded Wool may be applied to the Crown of the Head; this may be anointed also with Oyl of Amber, Rosemary and other things. Nor must these and other things be neglected, for the Nostrils and Temples; for instance, Take Leaves of Mother of Thyme, Marjoram, Seed of *Nigella*, a little bruised two Drachms, distilled Oyl of Marjoram three drops. Make a *Nadulus* with a Thread; it may also be wet in Marjoram Water. Washes for the Feet, inasmuch as they temper the Acrimony of the Blood and serum, and clear the Pores of the Skin or Tubes, of their Obstruction by gross and viscid Matter, and thereby promote Transpiration, are proper. We allow of Sternutatories and Masticatories, when the Eyes and Throat are well; we approve also of Bags and Caps made of Spices and other things. Besides, we are confirmed by Experience, That the Knots, that grow on a Wolf's Skin on the end of their Toes, worn on the Head is excellent for People in Catarrhs. A Cataplasim of very sowre Leven and Amber applied to the Head, gives help. *Emplastrum de Betonica & Tachamahaca* of each what is sufficient, may be amass'd together with Oyl of Mastich, spread upon Learlier, and covered with red Silk. Extract of Gum Juniper is a Specifick in Catarrhs. Issues because they evacuate an ichorous, peccant Matter, by the Passage made in the Skin, are of no contemptible use. As for Smoaking of Tabaco, we allow much to Custom; but ever remember golden Mediocrity: If Smokers would mix Tabaco with other Aromatick Herbs, especially *Theriac*, it were

well. They might do their Business the better by the following Experiment. Take a red hot Plate of Iron, besprinkle it with Vinegar of Roses, and so take the Fume at the Nostrils; repeat this often. The following external catarrhal Powder will be proper for this end.

Take of Leaves of Sage, Marjoram, Rosemary each one Drachm, Cloves, Cinnamon each two Drachms, Lignaloës one Drachm, Frankincense one Drachm and an half. Mix them. Receive the Smoak with your Head covered with a Sheet.

Hartman's Amulet of Mullein-Root will be very proper.

I thought fit to add a few things about a Suffocative Catarrh, which is certainly a very dangerous Disease. For the Motion of the Lungs and Heart keeps pace with Life, when that is stop'd, a Man, or any Creature, that has Lungs, must of necessity be choaked. We said before, That in this Disease the Blood stagnates in the *præcordia*, because of an acid Coagulator generally; wherefore it is nothing but the *Syncope cardiaca* of the Ancients; and if Froth rise out of the Lungs into the Throat, the case is extreme dangerous. Therefore to remove this Stagnation and Coagulation of the serum and Blood, in the Fit we immediately order letting of Blood either in the Arm or Foot, or instead of that, Cupping-glasses, with or without Scarification, for timorous People, to the end, that coagulated Blood may be dissolved in Circulation: For we find by experience, That presently as a Vein is opened, the Patient begins to Breathe. And if there be great danger,

danger, we fly to Cupping and Blisters, as to our last refuge. Then we procure a Stool with sharp Clysters made of aromatics and colocyinthiæ Medicines tied in a Rag. For instance;

Take of pectoral Decoction half a Pint, dissolve of *elect. hiera cum agarico* half an Ounce, *mel anthosatum* one Ounce, Oxes Gall one Drachm, Nitre fixt with Antimony two Scruples, one Yolk of an Egg. Make a Clyster.

At length we turn us to Dissolvents, or Hinderers of the Coagulation of the Blood. And many esteem the Porion following;

Take of *Sperma ceti*, from half a Drachm to two Drachms, dissolve it in a sufficient quantity of Hyssop Water, Syrup of Hyssop two Drachms. Mix them.

In this case also all Volatil Sales whatever are good, such as Volatil Salt of Amber, Harts-horn, Soot; and Volatil Spirits, such as *spiritus fuliginis succinatus noster*, which is made in manner following;

Take of Soot out of the Chimney, and Amber each alike, as much as you please. Destil it according to Art. First wash the Receiver with Spirit of Wine, and rectify it the usual way.

Pope Adrian's Wine must be reputed as a Secret. Spirit of Sulphur mixt with Spring Water is commended by several: For Acids do not only coagulate dissolved Blood, but also dissolve coagulated Blood. I have often known Gum Ammoniack, dissolved in Hyssop

Water, and given in Wine, do good. Crabs-Eyes egregiously dissolve grumescient and coagulated Blood. Here are Receipts;

Take of Essence of Myrrh one Drachm, *spiritus fuliginis succinatus* half a Drachm, *Elixir pectorale* one Drachm and an half. Mix them. Give twenty drops in the following or some such like mixture.

Take of Water of Hyssop, Fenil, each two Ounces, *aqua asthmatica Rudolphi* half an Ounce, *Oxymel* of Squills six Drachms. Mix them. Or,

Take of compound Spirit of Gum Ammoniack, *spiritus asthmaticus* each half an Ounce. Mix them. The Dose forty drops. Or,

Take of *lac Sulphuris* half a Drachm; *flos sulphuris myrrhatum* one Drachm, Flower of Benzoin eight Grains, prepared Wood-Lice half a Drachm. Mix them.

Juice of Radish mixt with Sugar is an experienced Remedy. Among Externals we highly value the following Plaster.

Take of *Tacamahaca*, Frankincense, Mastich each what is sufficient. Make a Plaster according to Art, and spread it upon Leather.

For the Motion of the Blood and serum (sometimes this catarrhal Matter runs so, and is evacuated out of the salival Glands by the lymphatick Vessels, upon the Throat and the *arteria arteria*, that it often endangers Strangling) Sudorificks promote it, that is, *tinctura bezoar.*

diac Michaelis, antimonium diaphoreticum, Spirit of Salt, urinous, volatril Spirit of Ivory, Soot, Castor. Out of the Fit I doubt not but divers Liniments and several other things before mentioned are proper here: for Instance;

these Pills following, and the like;

Take of *Massa pilularum de succino Cratonis* one Drachm, Syrup of Roses made by several Infusions two Scruples, *scammonium rosatum* one Scruple. With Essence of Rosemary-Flowers, make them like *Aloephagina*, for several times.

But not to be tedious, we shall forbear any thing more in this place, and betake our selves to other things.

Take of sowre Leven three Ounces, prepared Amber three Drachms, Vine Vinegar what is sufficient. Apply it to the Head.

For prevention we recommend

BOOK

BOOK II.

Of Diseases of the BREAST.

CHAP. I.

Of a Cough.

§. I.

IN the former Book we treated of Diseases of the Head; now we will proceed to those of the Breast, which contains all between the *aspera arteria* and the Diaphragm. And we shall begin with a Cough, which is commonly described, to be a violent, frequent, unequal and sonorous Efflation or Expiration, wherein a great part of the Breath bursting out with violence, does by main Strength endeavour to discharge the sharp Excrements, arising from a peccant Lympha, provoking and vellicating the Trachea, and the

Fibres of the Lungs. Every Cough is of one of these three Sorts; either Moist; or Dry, which is called Convulsive; or Stomachick. In a moist Cough, some Humor got into the Passages of the *Trachea*, is by Coughing voided at the Mouth; and as to consistency, this Humor is either thick or thin, crude or concocted. In a dry Cough nothing is brought up: and this is only caused by a subtil, heterogeneous Matter, perpetually irritating the nervous Fibres of the *Trachea* and Lungs, which we may call a Spasm or Convulsion of the Lungs. So likewise we question not, but a

Cough comes by consent: For we see, if the Stomach is loaded with tough Phlegm, that a Cough arises from thence, which we may call Stomachick: I verily believe also, That a Cough may proceed from consent with other Parts.

§. 2. Part affected.

THE Part affected in a Cough, is commonly reckoned to be the Lungs, which are affected sometimes by themselves, sometimes by consent with other Parts, to wit, the Breast or Diaphragm. For the Muscles that contract the Breast, the motive Fibres of the *bronchia*, and the Nerves of the Lungs sympathize, and other Nerves in Parts remote from the Breast being irritated, by means of the Spirits raise a Cough; nor will we excuse the *Trachea*, being a cartilaginous Pipe furnished with its Fibres.

§. 3. Diagnostick.

THE Signs of this Disease are manifest of themselves; for the Cough is so strong and frequent, that though the Patient would willingly hold it, he is not able, whence came the Proverb, *A Cough and Love cannot be hid*. The reason is, Because in a Cough the Breast must be very much compressed, since otherwise, that which is noxious can never be pumped up from those Parts by a Cough, and this preternatural Commotion, by reason of the size and conformation of those Parts, which serve for respiration. Oftentimes also in this case one feels a tickling in the inside of the Mouth, and a Pain in the Breast. The Humor also or *tenion* or *pne*, which is voided by Coughing is vari-

ous, sometimes white, sometimes yellow or red, sometimes blew, as D. *Reisellius*, chief Physician of *Stutgard*, in the *German Ephemerides*, has observed; and sometimes the Spittle is black, as I have often seen with my own Eyes. Sometimes this peccant Humor proceeds from the Sides of the *Larynx*, sometimes it lies deeper in the Pipes of the *bronchia*, sometimes in the Vesicles of the very Lungs, and these base Excrements are sometimes left in the utmost Vesicles of the *Trachea*, from whence they are cast out by frequent, violent and laborious Coughing. Sometimes Men spit Blood, the Voice is hoarse, sometimes so far lost, that it can scarce be heard. People, who have long Necks, are often lean and troubled with a *Catarrh*. Now we will proceed to the Cause.

§. 4. Cause.

ACCORDING to the Opinion of the Ancients, a moist Cough arises from an Humor, that falls from the Head upon the *aspera arteria* and Lungs, which if it come in great plenty and violence, there is also an excessive difficulty in breathing, a great Oppression is felt in the Breast, and sometimes in the Back, where the Lungs, sometimes the Membranes are afflicted: According to them therefore, a thick Phlegm stops the Organs and Passages of respiration, and exasperates and tickles these Parts. And they derive a dry Cough, either from Vapors or from Matter, but so subtil, or so viscid and glutinous, that it cannot be spit up. They hold that all the Humor falls from the Head upon the Breast; they are also of such another false Opinion.

That

That Vapors can ascend from the lower Parts, to wit, the Spleen, Liver, Stomach, Womb, to these Parts, whence proceed Heat, Draught, Obstruction, and sometimes Exulceration. They also firmly believe, That a dry Cough may arise from these same Vapors in an Inflammation of the Liver and in Fevers: in a moist Cough, also they hold, That sometimes a viscid Matter is detained in the Lungs; and they prove it by this; Because a Cough comes in a Pleurisy, Consumption and Inflammation of the Lungs. They, as well the Moderns, do not question, but a Cough may come from compression of the Diaphragm, from Worms, and from other sharp Poysons. The Cause of Hoarseness is a too great moistning of the Membranes which make up the Larynx, by a Catarrh or destillation of an excrementitious Moisture, falling upon the *aspera Arteria*, of which we treated sufficiently in a Catarrh.

S. 5.

Petraccius, that Master of great Secrets, declares this Disease robe excrementitious, and maintains that it has its rise from Tartar, or a filthy Mucilage, whether it proceed from a frustrated separation and expulsion in the Lungs and Passages of the Breath, or be translated in a liquid or vaporious form from other Parts. Now by Tartar (which he calls the Dung of every Part) he means any excrementitious, foreign Humor, whether it be thin or thick, which of its own Nature tends to Coagulation, and has no Power in it for expulsion, but an astringent and acid or aluminous Virtue. For a *Mucum* sticking to the

Parts does by degrees, and insensibly dry and thicken by virtue of the Heat, and by supervention of a saline Spirit is turned into Slime, Gravel, Earth or Stone, which he reckons to be Sorts of Tartar: Or, to speak as other Men do, It is coagulated and congealed into a salt, vitreous, clayish Phlegm, or into a gritty and chalky Matter. This Tartar sticking to the Sides, stops the Passages of the Breath, by its acquired Acrimony, irritates the Membranes, and by open force infects the Lungs, because it is of a saline Nature (whose property it is, to be bred and coagulated of Water) so that the Tartar being dissolved by a dissolving, inciding and absterfive, saline Faculty, is by the Spirits, the mechanick Separatory and Expulsory of the Lungs, rejected through its proper Emanctory, the Lungs; as *Petræus in Nosolog. Harmonic.* expresses it.

S. 6.

Helmont holds, That a Cough and Hoarseness arise from a sense of some things noxious, that troubles the *Larynx* from the end of it to the bottom of the Lungs; whence the filthy Atoms of the Air, or sharp Fumes, or fierce Cold, insinuate themselves into the *Larynx*, or into the substance of the Lungs. So external Injuries get into them, and by their abortive Virtue make Excrements; thus he discourses of a moist Cough. And he thinks, that a dry Cough proceeds from scarcity of a salt *Mucum*; and the reason he gives, why a Cough is familiar to old Men, is, because a little Excrement resides in the extreme Branches of the *Larynx*, which does not yet stop the Pipes, but

but does by its presence disturb and diminish the local Ferment, whence continually Excrements are raised.

S. 7.

ACCORDING to Willis his hypothesis, the Primary Cause of every Cough is an Irritation of the Nerves and Fibres belonging to the Lungs. Oftentimes also a sharp Humor gathered in the Brain, and falling upon the Head of the pectoral Nerves, causes a most troublesome Cough; so a serum flowing out of the Arteries into the upper parts of the Throat or *Larynx*, may, in his Opinion, cause a frequent and troublesome Cough, without any notable hurt to the Lungs. This noble Author says a dry Cough is Idiopathic, and is caused divers ways. An obstruction of any one of the Pipes of the Lungs, whether it be by Compression, Oppletion or Contraction, of necessity causes a Cough. Such things also, as are able perpetually to irritate the nervous Fibres, cause a dry Cough, among which he reckons Inflammations, Tumors, Stagnation of the Blood, either through Plenitude or Depauperation, chalky or stony Concretions, *Polypi*, Worms, &c. But a dry Cough is sometimes raised by the instinct of Nature, instead of a Pump, as he says, namely, that the Blood, which can scarce pass the Lungs, either through its proper Pycrasie, or because the pneumonick Vessels are not wide enough, may by the shaking of those Parts be put forward, and put into swifter Motion. As for a convulsive Cough, its conjunct Cause consists in the irritation of the Lungs: for the Motive Parts, to wit, the Nerves and nervous Fi-

bres, as often as they are irritated cause a convulsive Cough. The irritating Matter, according to him, is serum continually flowing out of the Mass of Blood, because of its too loose Frame, and molesting the Pectorals, inasmuch as then it descends into the Cavity of the *Larynx* by the tracheal Arteries, and Hoarseness may be deduced from thence. This spasmodick Disposition therefore is from a heterogeneous and elastic Matter, falling out of the Brain by the Ducts of the Nerves, with the nervous Liquor, upon the motive Fibres of the Breast. Wherefore when the Spirits residing in the Fibres, are incited to violent Motions of Expiration, they go into convulsive Motions. See the Author's discourse of the *Chin-Cough*.

S. 8.

SYDENHAM thinks that every thing, which is able to vellicate or any way to irritate the *aspera arteria* of the Lungs, may be the cause of a Cough, and what quite besmears the *aspera arteria*, is the cause of Hoarseness. Sometimes something coming from without, or taken by the Mouth, is carried the wrong way into the *Larynx*, and therefore causes a Cough; which also the Humors, that fall from the Head (the cause of a moist Cough) may do; and they are either pituitous, sometimes Sharp, Salt or Acid, sometimes Mild and Insipid, sometimes Thick and Clammy. He proves this by consumptive People, when the *Pus* or *Sanies* penetrates into the *aspera arteria*, then a most troublesome Cough is raised, of which alone the Patient complains. And he does not doubt but Blood and Phlegm,

Phlegm, namely a coagulated *serum* translated out of the Substance or Vessels of the Lungs into the *aspera arteria*, may cause a Cough. He acknowledges either the Air or cold Drink, troubling the *aspera arteria*, for external causes of a dry Cough. Some of the Internal causes, with him, are a Catarrh either very Viscid, or too thin and sharp, sometimes Exhalations and Wind, arising out of the *intestinum tenue* and Stomach, and drawn with the Air into the Lungs, or elevated from an effervescence between the Bile and pancreatick Juice, namely by the lacteal Veins insinuating themselves into the Heart, and then into the Vessels of the Lungs, and from thence into the *trachea*, and forcing the *Larynx* to a Cough. He ascribes Hoarseness to a salt, briny Spirit, which does not so much corrode the Parts, designed for Voice, as they affect them in some unexpressible manner.

§. 9.

Cortes and his followers accuse the pointed, sharp Particles of the Blood, which by the circulation of Humors are carried into the Muscles, which serve for Inspiration or Expiration, and residing there in too great quantity, do vellitate the Parts with an unusual trouble, and so cause this convulsive Motion. Sharp Catarrhs, and salt Destillations, falling upon the Jaws or the *aspera arteria*, have the same effect. In like manner the Particles of extravasated Blood being by continuance changed and made sharp, since they irritate the *bronchia* of the Lungs, cause a Cough, as one may see in spitting of Blood. If therefore these Particles predomi-

nate about the Jaws and Lungs, it cannot otherwise be, but such a preternatural Motion, namely a Cough, must be raised.

§. 10.

WE shall give our own Opinion without any ambiguity. Generally therefore we think, That this Disease comes from some Fault in the *Lympha*, and not from a Catarrh, after the vulgar acceptance. But if any one by a Catarrh mean an evasation of *Serum*, and not a defluxion from the Head, we shall not contend with him; because he is of our Mind. *Lympha* therefore is the Cause, inasmuch as being too largely poured out of the neighbouring Glands, it seizes upon the Jaws, and especially the *aspera arteria*; by its too much Acidity also, which it acquires by continuance, it irritates and velleitates these nervous Parts, whereby such painful Motions of the said Parts, and repeated spasmodick Crisparions are caused, for which very reason a troublesome convulsive Cough arises. But if the serous Filth be so Viscid, that it quite fills up the Chinks and Holes of the *aspera arteria*, then a Hoarseness arises. Most times some fault in the inspired Air precedes, which penetrates and hurts the said Parts, and hinders insensible transpiration a little, whereupon the *Lympha* grows sharp and sowre, and springs faster out of the Glands, and so causes a troublesome Cough and Sniveling. For when a Man's Body is very hot, the Pores of the Skin are very open, through which abundance of Matter flies away by insensible transpiration; when therefore such a Body is exposed to the cold Air,

many

many Particles of the Air insinuate themselves into the open Pores of the Skin, whereby insensible transpiration is partly hindred, the more subtil Particles flying away, grosser remain, which afterward by the perpetual flying away of the subtil Particles, grow thicker and thicker, and harder and harder; then if this thick Matter stick in the Muscles and Membranes of the Breast and Lungs, by vellicating the Nerves with its Acrimony, it causes a Cough. Nor do we here exclude any heterogenous thing whatever, which is able either outwardly or inwardly to irritate, vellicate and contract the Fibres and Membranes of the *aspera arteria* or Lungs, whether it be Dust, Air, Smoak, Phlegm, Pus, Sanies, or extravasated Blood. Without doubt also we must reckon, the Blood does remotely contribute much to a Hoarseness. This is confirmed by a Girl, who for want of her *Menstrua* fell into a Hoarseness for half a year, and when they returned, her Hoarseness left her. Phlegm grows thick in the Lungs, because of drawing in the cold Air, and acid Particles mixt with the Air, which thicken the Phlegm.

A Cough very often arises, if phlegmatick, or salso-acid stuff float in the Stomach, which successively irritates the upper Orifice of the Stomach by its offensive and troublesome Acrimony; then the Diaphragm and the Muscles next it, designed for expiration are convulsed, and so shake the Breast. Such a Cough I observed in a Woman that had a Cancer in her left Breast, who, because her pectoral Muscles were almost eaten away by the Acrimony of the Blood, was continually troubled with shortness of Breath

and a dry Cough, and at length bid farewell to this World. These things premised, we conclude, there is a three-fold Cough; namely, a moist one, a convulsive or dry one, and a stomachick one. The beginning of Motion in a Cough is in the Lungs, as in the shop of respiration, as we may see in a Consumption, Peripneumony, Pleurisy, &c. Then the Muscles of the Breast also are raised and irritated, which very much compress the Breast, by that means the better to expel whatever is contained in the Passages of the Breath: for the Breath is sometimes forced out so violently, that by its violence it sometimes carries along with it the Excrements which lye in its way. Towards evening, when the Patient goes to Bed, the Cough grows worse, because the saline Particles that lay still before, are stirred by the heat of the Bed, and driven into the Lungs, and so they cause a provocation to Cough.

§. II. Prognostick.

Let us now proceed to the Prognostick, that Delphick Oracle of Physicians. And the Prognostick in our Disease may be so proceeded upon, it is but a slight Disease, and sometimes leaves the Patient quickly; but if a Cough continue any time, it should not be despised, as *Sylvius* in his *Praxis medica* observes. For if it get root, it will scarce go away without hurt to the Lungs: for any salt or sharp Humor, when evasated, by standing still it grows sharper and sicker, by which the Lungs, that are flaccid, and of a thin texture may easily be eroded. A Cough therefore of long continuance brings the Patient to a Consumption. Sometimes also

So through violent Straining and Motion of the Breast, or the Acrimony of the latent Humors, the Vessels and Vesicles of the Lungs are broke, whence Spitting of Blood, the fore runner of a future Consumption, or Ulcer of the Lungs, proceeds. For a Cough proceeding from an Ulcer, or Abscess of those Parts is exceeding dangerous. A Cough which before was moist, and suddenly turns dry, with a heaviness of Breast, threatens an exulceration of the Lungs, and is therefore dangerous. A continual Cough from an old Obstruction, the Lungs also being indisposed or corrupted, is hard to cure. A dry Cough with a little Fever, growing worse after Meat, and when the Patient can spit nothing, argues a heetick Fever. So a dry Cough with much straining is very dangerous in Women with Child, and often causes miscarriage. On the contrary, a Cough with little straining, alleviation, much and speedy raising without Pains and Weariness is without danger.

§. 12. Dieterick Cure.

WE have done with the Disease, we will now go to its Cure. The benefit of an exact Diet appears principally in prevention. Chuse therefore an Air temperate and enclining to dry, which is of great advantage in a Cough: but one that is out of its due temperature, inasmuch as it is drawn in with the Breath, or is circumambient to the Body, or, as *Sylvius* will have it, is swallowed with the Spittle, by the nitrous Acrimony of the Particles whereof it consists, especially in Winter time, hurts the Throat and Lungs, as *Hippocrates* says, *f. 3. aph. 13.* Coughs come in Winter; and *f. 3. aph. 5.* as also

f. 5. aph. 24. Cold things, as Ice and Snow, are enemies to the Breast, thence arise Coughs and Destillations. When therefore the Sun makes his farthest recess from us in *Capricorn*, Coughs are rise, so do *Virgo* and *Libra*, when they pour down Showres from the Clouds. Avoid every Air that is impure, cloudy, smoaky, and full of moist Vapors.

As to Meat, it must be temperate, and such as by its mild and sweet Particles may allswage the membranous, fibrous and sensible Parts; let all sharp and high seasoned Meats, and such as render the Serum fluid and sharp, be forborn; so must all things dried in the Smoak; for sharp Juices corrode and vellicate those Parts.

The drink must be the pisan of the Ancients; or Mede, or a Decoction of Barly with Raisins and Figs, or the Ingredients for the pectoral Decoction described in the Augustan dispensatory. Large and hasty drinking of very cold Drink is hurtful: for I have observed a very troublesome Cough come upon drinking but one draught of cold Beer or Water. Any new, thin and acid Wine, especially *Franconian*, is exceeding hurtful.

Motion and Rest must be moderate, for too long and violent Motion sharpens all Humors, especially the Serum, and causes it to evasate. And too much Rest is hurtful, because it deadens the Spirits, and renders the Blood unfit for Motion.

Sleep and Watching must keep the same measure; for in excess they may cause many inconveniences in a Cough.

As for the *excreta* and *retenta*, the Belly must be loose by Art, if Nature will not do it. For if the natural and ordinary Evacuations of the

the Belly, Bladder or Womb succeed not, then *Serum* is gathered in the Body, and Coughs follow.

As to the *Passions of the Mind*, Joy and moderate Encouragements of Mind must be chosen. On the contrary, heavy Cares, Anger and Grief long continued are hurtful, especially the last.

§. 13. *Pharmaceutick Cure.*

NOW we will see, what Authors say of the Cure of this Disease; and first of all what the Opinion of the Ancients was. They in this Disease first of all render the redundant Humors in the Body obedient to Nature by Preparers; wherefore if the Cough be produced by a cold, thick, viscid Humor, then they use attenuating, inciding and deterfivive Medicines; but if it proceed from a thin and hot Humor, they advise the use of incrassating and inspissating things. Their preparatives of the first sort are, Syrup of Hyssop, Horehound, Liquorice, Maiden-hair, Calamint, French-Lavender, Oxymel compound of Squills, Syrup of Vinegar, Honey of Roses, Decoction of Figs, Raisins, Liquorice, Maiden-hair, Hyssop, Horehound, Water of Scabious, Horehound, Fenil, Hyssop, &c. Preparatives of the latter sort are, Syrup of Violets, Poppy, Jujubes, Water-Lily, Myrtles and Water of Barly, which is reckoned very good. And when they have so corrected and prepared the peccant Matter, they Purge it off, and their Evacuators are these following, *diaturbish cum rhabarbaro, electuarium Indum majus, diaphanicon, electuarium rosarum, hiera picra, pilula coctia, aloëphangira, de sarcocolla, de agarico, mastichina,*

manna, cassia, decoction of Senna-leaves, &c. Here is a Receipt or two of the Ancients.

Take of a Decoction of Hyssop and Fenil three Ounces; add of *diaturbish cum rhabarbaro, electuarium Indum* each three Drachms, Syrup of Liquorice half an Ounce. Mix them. Make a Potion. Or,

Take of pectoral Decoction with Senna and Polypody three Ounces. In the colature infuse of Agarick trochiscated fresh one Drachm, choice Rhubarb four Scruples, Cinnamon one Drachm and an half. In the expression dissolve of *Antidotus Inda major* two Drachms, Oxymel of Squills one Drachm. Make a Potion.

And they use this Potion in a thick and viscid Matter; but in a hot Cough they use only *Cassia*, or two Ounces of Calabrian Manna dissolved in Hyssop Water.

Then in a Cough they endeavor to avert the Matter, which they believe falls from the Head on the Lungs, by Clysters, Errhines, Bleeding, Issues and Baths, afterwards they prescribe such things as may stop the Matter from falling on the Lungs; of which we have spoke sufficiently in the Chapter of Catarrhs. Last of all they order such things, as may bring up the Matter wherewith the Lungs are stuffed, to which they add things to strengthen a weak Part. Things to promote Spittle, are Syrup of Liquorice and its Juice, *diatragacanth, loboeh sanum, e pulmone vulpis, de pino, drapenidium*, Elecampane, Florentine Iris root. Let this serve for a Receipt;

Take

Take of Sugar of Violets, Water-Lily each half an Ounce, *diatragacanth. sine spec.* half a Drachm, Juice of Liquorice two Drachms, *rotula bechica* one Drachm, *styrax calamita* one Drachm and an half, Myrrh, dried Roses each one Drachm, Tragacanth, Pine-Nuts each half a Drachm, Syrup of Violets what is sufficient. Make an *eclegma* or Lohoch.

External Emollients are Oynments of Marsh-mallows, Linseed-Oyl, fresh Butter, Oyl of sweet Almonds, Mucilage of Linseed, Fennegreek, Saffron. Here is a Receipt;

Take of Powder of *Iris* two Drachms, Meal of Lupins, Powder of Hyssop each half a Drachm, Saffron six Grains, Oyl of Chamomil, Line, White Lilies each six Drachms. Mix them with a little Wax. Make an Unguent.

Their Corroboraters are, Treacle, Mithridate taken twice a Week, *species diaireos Solomonis, loboch Samum, de pino, diapenidium*, Maiden-hair, Betony, Syrup of Baum, *loboch ad Asthma*, Decoctions of the Woods *guaiacum, sassafras*, &c. And they apply to the Crown of the Head a Cap of dried Roses, Cloves, Mace, Seed of *Nigella*, Cyprus root, yellow Amber, *Ladanum* and *Styrax*. If a Cough come through excessive Irritation, some of the old Practitioners do deservedly magnify a Decoction of Barley made with a moderate quantity of Sugar, and they give Narcoticks mixt with detensive Medicines: for instance;

Take of Juice of Liquorice two Drachms and an half, Starch one

Drachm and an half, Saffron, Myrrh each half a Drachm, *Opium* three Grains, *styrax calamita* three Drachms, Syrup of Violets what is sufficient. Make Pills. Give one Drachm at going to Bed. Or take an Ounce of *Diacodium Augustanum*.

And when the Matter is near ripening, and is sufficiently attenuated, they will have a Decoction of Figs, Raisins, Liquorice, Hyssop, Violets, Quince-seed, Mallow-root, &c. Fumigations also are of use here. At last in a desperate case they use Cauteries both actual and potential, Blisters, Leeches, Frictions, Scarifications, &c.

§. 14.

THE Chymists come next, who by *Paracelsus* his *arcana*, that is, by Depuration, do with success Cure this Disease. If therefore the Cough proceed from a viscid Matter or Tartar, they magnify Flowers, Tinctures, and Butter of Antimony, Rubine, and Balsams of Sulphur made with Gum, Myrrh, Frankincense, Aloes, Saffron, *terra sigillata*, &c. They say also, that Oyl of Vitriol and of the Philosophers is of great efficacy in this Disease. Here is a Receipt.

Take of Water of Colts-foot, Speedwell each three Ounces, Spirit of Vitriol, Philosophers, Oyl of Aniseeds, Fenil-seed each one Scruple, Syrup of Liquorice, Violets each one Ounce. Mix them.

They also highly cry up Opiates in this case, with this Caution, That they be not given to such as are

are weak, or have their Breast stuffed with Recrements: for though they abate the Cough, and procure sweet Sleep; yet they encrease straitsness and difficulty of breathing. But they admit of *Laudanum opium* in a small Dose mixt with abstersgents, upon urgent necessity, in the beginning of a thin and sharp Desfluxion.

§. 15.

Helmont and his Disciples reject Purging as hurtful in a Cough, believing that the excrementitious Matter will not give way to Purging, though the spitting seem to be abated after Purging, for probably this proceeds from diminution of the mēstruick Blood, and from a more scanty dispensation of Allment. Besides, Purgatives weaken the whole, and so do more harm than good. By his advice therefore a Cough shall be cured by Narcoticks. To this end he commends *Laudanum Paracelsi* for liberty of breathing. For all anodine Remedies, endued with a restorative and allwaging Virtue, appease and quiet all mad Symptoms, which stop and remove degenerate Phlegm and Spittle, as long as it depends upon some fault in the digestive Ferment; and that, in right of the duumvirate of the Stomach, which being helped by Medicines is able by its general digestive Faculty, to correct all the Errors of the digestive Parts, the Products of Excrements in the Lungs; unless they come from some proper defect in the Lungs, through the corruption of their innate strength, and then they putrefy, whether the Stomach will or no. Among Anodines he reckons, and

dinum saccharinum Sulphuris made of Flowers of Sulphur finely opened: And the anodine Virtue of this Medicine, appears hence, in that while it is yet in the Stomach, it reaches the Lungs, so as to influence them. Smoak of Sulphur does something, which penetrates and helps the Lungs, as it preserves Wine from corruption. *Opium* also and Opiates, so prepared as to have what is mortal separated, are proper. For if one knew but how to separate what is Mortal from Poppy, he certainly had got one of the best Remedies for a Cough. And this may be done by the Liquor *alkabest*, as *Grembs* says in *arbore ruinosā, lib. 2. c. 1. §. 9. de pulmonum defectibus*. Therefore *Laudanum Paracelsi* and his *alkabest* introduce Peace and Rest to the *Archeus*, and put a stop to the degenerate Digestion, check the thin and yellow Spittle, and turn it white and healthy. He also commends the taking of pleuritic and vulnerary Medicines in drink.

§. 16.

Ultis in a Cough proceeds upon three Indications.

1. He rectifies the disorder in the Blood, from whence Fluxions of the Serum proceed. 2. He derives the Recrements of the Blood, that are apt to separate from it, from the Lungs to the Pores of the Skin, or the urinary Passages, and other Emunctories. 3. He strengthens the Lungs against the susception of Serum and other Humors, and fences them against the invasion of external Cold.

The first Indication respects the excessive effervescence of the Blood, whereby the Blood, by reason its

effluvia

effluvia are stop't (for if we may believe *Sanctorius*, who weigh'd in an exact balance the quantity of what we lose and perspire, more is evacuated in one natural day by insensible transpiration, than is in fifteen days by stool) boils up too much in its Vessels, whereupon the *Serum* and other Humors are apt to part from the Blood. Therefore, to check this, the injury of the Cold must diligently be avoided, a thin Diet must be kept, transpiration must be procured, and a gentle Sweat given Morning and Evening with Rosemary or Sage Posset-drink : and when these things will not avail, we must proceed to letting of Blood, if Strength be sufficient. Pectoral Decoctions also are good for this purpose, inasmuch as they destroy the Acidity of the Humors, and stop the dissolution of the Blood, and its fusion into Serosities ; therefore Medicines made of Sulphur are good.

The second Indication, that the *Serum* and other Recrements of the Blood, being derived from the Lungs, may be evacuated by some of the Emunctories, is performed by Diaphoreticks, Diureticks and gentle Purgers. To this end after bleeding he gives a gentle Purge, and repeats it several times. Then he advises the giving of pectoral Decoctions, made of roots of Chervil, Butcher's-broom, and Elecampane. He commends Woodlice, volatil Salt of Amber and several fixt Salts, and testaceous Powders, as Diureticks ; to which end he magnifies Turpentine Pills.

In the third Indication he intends a suppression of the Catarrh, and he guards the Lungs against Fluxions of the Humors, and Invasion of Cold by Licks and Eclegms.

Then he has respect to two things, 1. That the Mouths of the Vessel and Glands opening upon the *trachea*, may not discharge their Serosities too much upon it, but that they may be moderately closed by Astringents; and 2. That the sides of the Passages of the *Larynx* may be sufficiently smoothed, that they may neither be offended by suffusion of a sharp *Serum*, nor by the invasion of external Cold, nor be continually irritated to a troublesome Cough. For closing up the gaping Mouths of the Glands, he commends conserve of Red-roses, *olibanum*, *lobach de pino*. I shall give young Physicians some of his Receipts, such as I my self have experienced ;

Take of Oyl of sweet Almonds new drawn, Syrup of Maiden-hair each one Ounce and an half, Sugar-Candy two Drachms. Mix them by rubbing in a glass Mortar, or shaking them in a Glass, till they grow white, then lick it.

Our famous Author knows not a better Medicine than this following, for a Cough, if there be no fever ;

Take of Tincture of Sulphur half an Ounce. The Dose from six to ten Drops, given Morning and Evening in a spoonful of Syrup of Violets.

For this end he commends Balsam of Sulphur, of Peru and *opobalsamum* from three Drops to ten. Among trochiscs he has these following, often experienced by us ;

Q

Take

Take of Syrup of white Poppy six Drachms, Powder of red Poppy Flowers one Drachm, extract of Liquorice two Drachms, *lac Sulphuris* half a Drachm, Sugar pennisiate two Ounces, with a sufficient quantity of dissolved tragacanth make a mass for Trochiscs; Or,

Take of *species diatreos diatragacanthi frigidi* each three Drachms, Flowers of Sulphur, Powder of Elecampane-root, white Benzoin each one Drachm, add of *aleosaccharum anisi* one Scruple, the whitest Sugar dissolved and boiled up for Lozenges eight Ounces. Make Lozenges of half a Drachm's weight.

Among Pills he commends the following;

Take of Powder of Elecampane root, Liquorice, Flower of Sulphur each one Drachm, Benzoin half a Drachm, Tar what is sufficient. Make them into small Pills. The Dose three or four Morning and Evening. He holds, That Decoctions of the known Woods are good.

In a chin Cough, which usually afflicts Children, and by reason of the stagnation of the Blood makes them black in the Face, he says, this following is excellent;

Take of Cup-Moss three Drachms, *lac Sulphuris* one Drachm, Sugar Candy half a Drachm. Mix them, make a very fine Powder. The Dose, a Scruple twice a day.

§. 17.

Sylvius, for correcting the phlegmatick and acid Humors, that fall from the Head upon the *aspera arteria* and so cause a Cough, magnifies Crabs-eyes, Coral, Pearl, &c. And for correcting salt Humors, Gum tragacanth, Arabick, root of Marsh-mallow and its Sugar, root of Liquorice and its Juice, *pilula de cynoglossa*, *de styrace*, or the following Lozenges;

Take of Seed of white Henbane, white Poppy each half a Drachm, *olibanum*, red Myrrh each one Scruple, the best Saffron half a Scruple, Liquorice-Juice one Drachm, Sugar of Marsh-mallow half an Ounce, some Gum tragacanth dissolved in Rose-Water. Make Lozenges according to Art.

He uses these generally, in case the Humors be thin; but when they are thick and viscid, and require attenuation, then he prescribes *Oxymel* simple and of Squills, Syrup of Hyssop, or *de duabus radicibus*, to be taken by Spoonfuls. Here is one of the Author's Receipts;

Take of Water of Hyssop two Ounces, *Oxymel* of Squills six Drachms, Syrup of Hyssop, Maiden-hair each one Ounce. Mix them. Let the Patient take it by spoonfuls.

If the Cough arise from too hot a Blood, carried to the *aspera arteria* from the Head or any other Place, it may be cured by letting of Blood, especially if a *plethora* concur;

concur; and if the Heat be great, it must be allwaged by austere things; for which purpose he commends the following Apozeme.

Take of Leaves of Plantain, Houle-leek, Woodfores each one handful. Boil them in Barly Water. To twenty Ounces of the Colature add of Syrup of Jujubs four Ounces, *lapis prunelle* one Drachm. Mix them. Let the Patient take a draught of this Apozeme after every flushing, and sometimes a subsequent bleeding at the Nose.

And a dry Cough, according to our Authors's Opinion, arising from cold Air or Drink, may be stopt by holding ones Breath: for so he cured himself. But if a dry Cough have its rise from tough or viscid Humors, he orders Incisers, such as *trochisci bechici albi & nigri*, Elecampane root in Powder, made into Lozenges with Sugar: then he advises the carrying off these Humors by divers Evacuaters. And for Vapors and Wind which come any way from the *intestinum tenue* to the Lungs, and so produce a dry Cough, he will have them dissipated by Carminatives, such as Water, Spirits and Seeds that are carminative, &c. He cures a most grievous Hoarseness, which lasts for several Months, only by giving a few drops of Spirit of Sal Ammoniac every day in his ordinary drink.

§. 18.

THE Cartesians cure a Cough successfully, by dulling and smooching the acute Particles, that vellicate the nervous Membranes in the *aspera arteria* and the Lungs.

For which purpose he commends sweet things (especially if the Phlegm be salt, and erode the Throat) and Opiates, which also temper the Acrimony of the Humors, to wit; *laudanum opiatum Paracelsi*. See *Hornius his arca Mosi* p. 156. He says, that Vinegar of Squills is proper, if there be a mixture of viscid Phlegm. In excessive heat, they give testaceous and ponderous things, such as may dull these acute and cutting Particles, and imbibe them, just as Crabs-eyes, put in Vinegar, take away its sowrenness. These Medicines are, Crabs-eyes, *lapis prunelle*, Coral, &c. For a Purge they commend *Mercurius dulcis*, because it cuts Phlegm very well; but if the Phlegm be thin, they commend Opiates. In the rest they generally agree with other Authors and with Us.

§. 19.

NOW we will give you our own Opinion. If a Cough therefore come from the *Larynx* being affected, or from the Irritation of a cold Air, things made of *Opium* and Poppy are proper, for they stop thin Catarrhs by thickning them, they in some measure allswage the troublesom Sense in the *Larynx*, and the Irritation in the *Pharynx*, and by these means hinder the plentiful expression of *Lympha* out of the Glands by the strained Fibres. In the mean time a convenient temperature, proportionate to the touch of the *Larynx* is acquired; and so the Spittle appearing more concocted and thick, may the more easily be raised. In the foresaid Cough therefore we give Opiates with great success, such as *laudanum opiatum* prepared our way;

Iberiaca caelestis, *diacodium*, *pilula de styrace*, *tinctura opiata Wedelij*, *pilula de cynoglossa*. Here is a Receipt or two;

Take of *Sperma ceti* half a Drachm, prepared Amber one Scruple, *Iberiaca caelestis Hanovienfis* four Grains. Mix them. Make a Powder for two Doses, one to be taken in the Evening before Supper, and then at going to Bed, in a little Broth, or in the following Vehicle;

Take of Fenil-Water, *loboch sanum* each one Ounce and an half, *syrupus de Eryfino Lobelii* one Ounce. Mix and give it.

Here is a Powder;

Take of *Sperma ceti* two Scruples, Flower of Benzoin, Myrrh each half a Scruple, *laudanum opiatum* three Grains. Mix them. Make a Powder for three Doses.

Poppy Medicines are good in salt Catarrhs. Here is a Receipt;

Take of *loboch de papavere* one Ounce, Syrup of Myrtles, *diacodium* each six Drachms, *species diatrachanthi frigidi* one Drachm, Bole Armenick half a Drachm, prepared Amber one Scruple. Mix them. Let the Patient take it by Spoonfuls.

The following Lozenges are good; for I have always found them such in serous Catarrhs;

Take of *species diaireos simplicis*, *diatrachanthi frigidi* each one Drachm, Myrrh half a Scruple, Bole Armenick prepared half a

Drachm, *confessio alkermes* one Drachm, extract of Colts-foot, Elecampane, Lignaloës each half a Scruple, Conserve of red Roses six Drachms, the whitest Sugar six Ounces. Mix them. Make Lozenges.

In this case, for the ordinary drink, a Decoction of the Woods, especially of red *Brazile* with other Pectorals, is good. But if the Cough be settled, and have its rise from a sower viscid *Serum*, lodged in the Vesicles of the Lungs, we highly value, in order to cure, inciding and aromack things, volatil Salts, bitter things, &c. and above all a Decoction of Elecampane root with Currans, also Spirit of Sal Ammoniack, *balsamus sulphuris anisatus*, & *liquor cornu cervi succinatus*, taken by drops, with which last I have cured several inveterate Coughs. When this viscid and tough Matter is incided, corrected and made thin, we fly to Purgers, and we have found the following Pills to have better success than others;

Take of *pilula marocottina* two Drachms, extract of Elecampane, root of Angelica each half a Drachm, Oyl of Sulphur, Anise, Fenil each six Drops, Powder of *Cardus Benedictus* one Scruple, prepared Amber half a Scruple, Spirit of Turpentine five drops. Make a Mass of Pills, of which take half a Drachm.

If much Salt be mixt with the Humors, and the Throat be irritated by the sharpness, so that the Cause of the Cough is multiplied, some lick or Juice of Liquorice must be held in the Mouth. In this Cough the simple Juices, in an asthma,

asthma, the anilated must be taken. If there be heaviness, Spirit of Sal Ammoniack, according to *Sylvius*, will be good, or the following electuary.

Take of Juice of Cabbage clarified two Ounces, *saccharum penidia-rum* half an Ounce, Oxyssel of Squills one Ounce and an half, Powder of Mallow-root one Drachm and an half. Mix them. Make an Electuary. Or *rob passulatum*.

Hartman, for cutting the viscid Matter, commends the Liquor of Sugar, made with slices of Radish and Honey, also Spirit of Wine burnt with Sugar, which he calls *oleum sacchari magistrale*. But we rather forbear Sugar; for the sweet things that are commonly used are very prejudicial to Coughs, because they do not sweeten the Blood, but rather exasperate and fret the Lungs, which may be proved by what follows. For an acid Juice may be drawn off sugared things, so corroding, that it will bind the Tongue, set the Teeth on edge, gripe the Bowels; yea corrode Metals, and dissolve Antimony. Which if nice People would well consider, they would not emaciate themselves so with sugared things, and throw themselves into divers sicknesses. Hence also it may appear, how inconsiderately our Galenists act, who oftentimes in this Disease insist upon sugared things, as *Joh. Helfr. Janghen*, in his *Medicus presentis seculo accommodandus*, says very well. Neither can I imagine the Passages, whereby these sweet things may enter the Lungs whole, or dissolved, since not a drop of the most subtil Liquor can

get by the *aspera arteria* into them, without pain and choaking; and therefore there is a valve to hinder it. They cannot pass by the Stomach and a longer way without dissolution; and when they get thither dissolved, what do the dissolved acid Particles, but increase the Disease. Sugared things indeed have their use; but I never saw a consumptive Person cured thereby.

Let us therefore seek out such sweet things, as do change their Essence, but reach the Place in their full virtue, such as sulphureous exalted Medicines, and saline ones volatilized. We should therefore advise *Anatus Lusitanus* his Medicine for an inveterate Cough:

Take of yellow Sulphur half a Drachm, Benzoin one Scruple. Take it in a rear Egg in the Morning fasting and going to Bed. If there be hoarseness, this or some such Decoction will do good.

Take of husked Barley one handful, Currans one Ounce, Liquorice-root two Drachms, Cabbage-seeds three Drachms, leaves of Hyssop, lesser Centaury each one handful, fat Figs No. Vj. Boil them in a sufficient quantity of common water. For every Dose, add a Drachm and an half of *Syrupus de Erysim.* Mix them. Or,

Take of Cabbage Juice two Ounces, Powder of Florentine *Iris* two Drachms, Honey what is sufficient. Boil them to the consistency of an Electuary.

If the Cough be desperate, and spitting of Blood concur with an effervescent Motion in the Blood, *Fausius* his pectoral Decoction will

be good, which the forsaide *Junc-*
ken describes. Or Onions or Gar-
 lick boyled may be eaten. But if
 the Cough arise from the Stomach,
 which is intraged by a Cough, a-
 bove all other things, we think, this
 viscid and mucilaginous Matter,
 that lies in the Stomach, should be
 cast out: for which nothing is bet-
 ter than a Vomit; because it gives
 present relief. Afterwards, for
 dissolving the remainder of the
 acid mucilaginous Matter, and for
 relieving the Fibres of the Coats of
 the Stomach, this following will
 be proper.

Take of Water of Hyssop, Mint
 each one Ounce and an half, Li-
 quor of Rhadish made with Su-
 gar one Drachm and an half, *Sper-*
ma ceti, Syrup of Tabaco, Hedg-
 mustard each half an Ounce.
 Make a mixture, to be taken by
 spoonfuls.

Or *Sperma ceti* not rancid may
 be given with hot Broth from ten
 Grains to a Scruple, yea, a Drachm.
 Acids abate a Cough, if they be vo-
 latil, inasmuch as they infringe the
 Salt, and dissolve Phlegm. The
 reason, why Acids move a Cough,
 is this, because Acids, when they
 are taken do irritate the Throat,
 which is already in some measure
 excoriated by salt Phlegm, which
 Cough may presently be stopt, if the
 Mouth be washed with cold Water.
 But these Acids must be volatil,
 for otherwise they would coagulate
 the Phlegm. Women with Child
 also are often troubled with a dry
 Cough, in curing of which *pilula*
de cynoglossa, or *de styrace* taken once
 or twice a week, going to bed, are
 good. Here is a receipt;

Take of *massa pilularum de styrace*
 one Drachm. Make Pills of a
 Grain weight. Let the Patient
 take seven as she goes to bed.

Medicines of Myrrh are not con-
 temprible in a Cough, from what-
 soever cause it proceeds. There
 are several Externals, among which
 we may reckon the following lini-
 ment, for anointing the Breast;

Take of the pectoral Oyntment one
 Ounce. Grease of a Badger, a Goose
 each two Drachms, oriental Sas-
 fron half a Scruple. Mix them.
 Make a liniment.

Or for the Soles of the Feet;

Take of Garlick heads No. ij. Grease
 of a Hog what is sufficient, Pike-
 fish two Drachms. Mix them.
 Make a liniment wherewith the
 Soles of the Feet may be anoint-
 ed. Which may be done with
 the fat of a Pike-fish alone,
 which acts by a peculiar and un-
 speakable Motion upon the Lungs,
 and opens their stuffing.

Other external, chirurgical Re-
 medies in a Cough, Vescicatories,
 Cauteries actual and potential,
 Bleeding, Bathing, &c. may be
 gathered from what has pre-
 ceeded. Frictions and Ligatures
 do but incommode the Pati-
 ent.

In a Hoarseness with a Cough
pilula de cynoglossa and *de sty-*
race, about five of them, swal-
 lowed at Bed-time, are good;
 and Raisins may be steeped in
 Spirit of Wine or Aniseed Wa-
 ter,

rer, and the Patient may take it by Spoonfuls. I highly value Ginger candied in China, and all Medicines of Myrrh. In a Cough also a Swan's-skin may be outwardly applied to the Breast, or the Breast may be anointed with Swan's-Grease. *Herferus* in the Fit commends the putting of the Feet into warm Water.

Q 4

CHAP.

C H A P. II.

Of an Asthma, or Shortness of Breath.

§. I.

IN the preceding Chapter we have discoursed of the inconveniences of a Cough. Now a more dangerous and difficult disease follows, which in Greek they call *Asthma*; some call it *epilepsia* or *caducus pulmonum*; some, *difficulty of breathing* or *shortness of Breath*. It is commonly described to be, *a difficult respiration, sometimes with, sometimes without a Fever, sometimes with a noise and rattling, sometimes without, arising from an obstruction of the Bronchia and Cells of the Lungs, or rather, as some will have it, from a straitness of them.* The difference is threefold. For when the difficulty of breathing is but moderate, without a noise and Fever, it is called *dyspnœa*. But when the Patient cannot breath without a noise and thickness of of Breach, it is called an *Asthma*. And if the Disease be so urgent, that the Patient cannot take his Breath, except he sits upright, it is called *orthopnœa* or *upright respiration*. *Helmont* makes a two fold *Asthma*, a Woman's *Asthma* and one

common to both Sexes, and he subdivistinguishes it into a moist and a dry one.

§. 2. Part affected.

NEXT comes the Part affected, in which affair the old Galenists, and some of the Moderns contend, That the Branches of the *aspera arteria*, disseminated into the substance of the Lungs, are here affected; others blame the diaphragm it self for the Subject, being so perswaded on this ground, because scorbutick Persons, how difficultly soever they Breath, yet they complain nothing of their Breast, but show the place, where they feel their grievance, under the diaphragm. *Helmont* shoots several bolts, that he may hit the mark, for sometimes he acknowledges the ambient Membrane of the Lungs, sometimes the Stomach, sometimes the Womb, and sometimes the Spleen, for the Part affected. Some blame the Muscles that lift up the Ribs. We reckon the Lungs are the Subject, that wonderful Fan of Nature, together with all the Muscles that elevate

levate the Ribs, the chief whereof are the *serrati postici*, upper and lower, the *levator costarum* of Steno, and the *cervicales descendentes* of Diemerbroeck, an influx of the animal Spirits being presupposed. For it is probable, that the *musculi levatores* or *patientia*, and the *rhomboidai* do give their assistance in inspiration, the *scapula* also assisting to lift up the Breast for larger inspiration, because the former arise from the *vertebra* of the Neck, and the upper ones of the Back, and descending a little are inserted into the *scapula*, which are fixt to the Back. And this more fully appears, because in asthmatick People, and such as are ready to dy, while they do their utmost to fetch their Breath, the *scapula* are very much elevated. Yet we cannot be without the motion of our Lungs, for a few Minutes of an Hour, without imminent hazard of our Lives, which when stop't, the Blood must needs coagulate about the Heart. But here the Lungs are not affected in all their Parts alike; for some suffer more nearly, others more remotely; and the *bronchia* or Branches of the *aspera arteria* are most hurt in this Disease, not excluding the Vesicles, and the sanguiferous Vessels, which carry bad Matter to the Lungs: For according as the acid Particles are intangled with divers Particles of viscid Phlegm, or with bilious or alkaline ones; so all Diseases happening in the Lungs do vary, being either slow or swift,

§. 3. A Case.

I Have a mind here to add a Case, very apposite to the business in hand. A Man above fifty years old,

of a sanguine Constitution, being very fat, had for three years and above, been troubled with a grievous shortness of Breath, so that he could scarce walk an hundred Paces, without fear of strangling. He in Winter-time, and a rainy Season fell ill of extreme shortness of Breath, growing always worse towards Night, while this lasted, he was forced to rise out of his sleep, he beat his Breast violently with his Hands, lest he should be choaked; he had a dry Cough, yet without a Fever; he in vain gaped with open mouth at the Window for Air, he could not speak; his Urine was thin and red; viscid Phlegm ran out at his Mouth; and he breathed with rattling and a noise.

§. 4. Diagnostick.

BY the preceding Case one may know the attendants of this Disease. And it is pretty well known of it self; but for the better knowledge and distinction of Diseases, besides what may be gathered from the Case, I shall recount a few things. There is therefore a thick and great respiration without a Fever, sometimes with shortness of Breath and a noise, which troubles Men more lying than sitting, the Breast is heavy, they Cough often, but bring up nothing that is purulent. Sometimes this Disease encreases so, namely in an *orthopnea*, that they are forced to take their Breath, with their Body erect, lest they should be quite strangled; there is a wheezing, and sometimes a rattling, growing worse, especially at Night. In a scorbutick Asthma there are puffings up of the Stomach, and painful Tensions of the *hypochondria*

hypochondria, rumbling in the Guts, frequent Spitting, Belching, Heart-burn, sometimes Vomiting, Palpitation of the Heart, Frights and Night-sweats, the Face is sometimes pale, sometimes shining and puffed up, the Urine sometimes high coloured, sometimes pale, red Gravel often sticks to the sides of the Chamber-pot, whence proceeds the obstruction of the Kidneys, and a gathering of saline Particles, especially in the Blood.

§. 5. Cause.

HAVING done with the diagnosis, we will now proceed to the Cause. The old *Galenists* come in the first place, who hold, that an *Asthma* comes ofttest of all from a thick and viscid Phlegm, which sticks sometimes in the Passages of the *aspera arteria*, sometimes in the Lungs themselves, where that Phlegm comes from some where else, that is, from the Head, or is bred there. For they doubt not, but many superfluities of that sort may be bred in the Lungs, which Phlegm in a desperate Disease they think by means of Heat may be turned into a vitreous and clayie one, yea, and into Stones. They reckon also that this may afflict a Man, because of straitness of Breath, and its bad conformation; nor do they exclude Vapors ascending from below to the Lungs from breeding an *Asthma*.

§. 6.

Paracelsus his followers blame mineral Fumes lurking in the chaos, impregnated with the virtues of the Stars, drawn in by respirati-

on and infecting the Lungs; nor yet do they wholly neglect the Opinion of the *Galenists*, allowing that Phlegm may ly in the *bronchia*, which if it do, the Air cannot penetrate; whereupon the Patients grow out of breath; and then when Phlegm is dried in the Pipes, they think, that a perpetual Cough may be raised. As for external Causes, *Paracelsus* admits divers *de morb. metallor.* namely, external Heat and Cold, Frost, Rain, Clouds, Falling of Stars, sowre Potions, Acidity of Vitriol, of Alum, subterranean Air, saline, sulphureous, mineral, antimonial, arsenical and orpimental Fumes. In another place he does not deny, but a Tartar may be bred in the Lungs, and that thereby this Disease may be bred.

§. 7.

Helmont, who is above all predicaments and predicables, after his usual manner, laughs at the Opinions of the foresaid Authors, who ascribe the original of this Disease to Phlegm falling on the Lungs, that is, in an imaginary Catarrh. He gathers it from hence, because an *Asthma* seizes one suddenly, just as if a Rope were tied about a Man's Neck; and then it goes off without voiding much Phlegm, and though sometimes a little be voided, that must not be ascribed to the occasional Cause, but rather to the effect, that is, to great coarctation, and injury offered to the Lungs. He also rejects their Opinion, who hold, that Steams and Vapors arising may cause an *Asthma*. And he calls it *the falling sickness of the Lungs*, because it has its seat in the diaphragm. He says, likewise, That the cause

Cause of this Disease is a more peculiar Poyson, which affects the Lungs by its property, than that which casts the Head and the whole Man into an Epilepsie. He also, as we have said, makes a twofold *Asthma*, a Woman's, and one common to either Sex: For there arises a Poyson from the Womb, (whose life and power rules the whole Woman) which contracts the Throat, and straitens the Lobes and Pores of the Lungs. He also says, That an *Asthma* is either dry or moist; the dry, according to him, is usually interrupted, which nevertheless violently disturbs the whole Body, and compensates the interval by its grievousness: This *Asthma* has its seat in the Spleen, wherefore he calls asthmatick People splenetick. But in Women he will have it in the Womb, whence that Sex is truly miserable, for he (and I also) hath seen Women, who by smelling sweet Scents, besides Head-aches and danger of Swooning, have fallen into extreme difficulty of breathing. For the *Archæus* either of the Spleen or the Womb primarily affects the innate Spirit of the Lungs by the action of Regiment, whereby an *Asthma*, like an Epilepsie, is bred; wherefore he calls it *the Epilepsie of the Lungs*, because this Disease agrees with an Epilepsie. And he concludes as much *a posteriori*, namely from the *juvantia*: for whatever cures an Epilepsie, cures an *Asthma*. He maintains also, That an *Asthma* has its seat in the Stomach; and he endeavours to prove it, because sometimes by giving but one Vomit, the Disease is perfectly cured, and because it proceeds from the corruption of certain Meats. He derives a moist *Asthma* from abundance of

Matter, which is occasioned by some fault in the Lungs themselves, and it generally troubles old Men, and such as are near death, and consumptive People. Afterwards it breeds mucilaginous stuff, either, because of an occult Imposthume, or some other Injury done to the Lungs. About which, if you would have more, you may consult the Author himself, *de Asthmate & Tussi*. But lest we should be too tedious in hearing *Helmont*, we will bestow a little time upon the famous

§. 8.

Ullis, who calls this Disease the King of the rest of the Diseases of the Breast; for this reason, because there is nothing more terrible than the Fits of this Disease. For Patients are shaken by it, as by an earthquake, because respiration, by which we live, is hindered, and sometimes quite abolished, which must cause death. And as for the cause, he, as well as *Helmont*, rejects Vapors ascending from the Spleen, Womb, Mesentery, Stomach and other Bowels to the Lungs; because no asthmatick Body ever falls into an *Asthma*, without some manifest fault in his Lungs, there being no fault in the foresaid Parts, nor any straitness of the *bronchia*, which People talk so much of. Therefore he assigns, as the only cause of an *Asthma*, the convulsions of the Motive Parts. For, according to him, a heterogeneous Matter, injurious to the Spirits, falling out of the Brain in a little quantity, gets into the Coats of the Nerves without much harm; but if it amount to any quantity, and possess the nervous and muscular,

culous, pneumonick Fibres, serving for respiration, then it molests the inhabiting Spirits, and puts them into asthmatick Spasms. Nevertheless he denies not, but an *Asthma* may sometimes arise from straitness and obstruction of the *bronchia* by a thick and viscid Humor, purulent Matter, extravasated Blood, Swellings, *feirrhus*, or Stones, &c. Among occasional causes, he reckons all things which cause the Mass of Blood to ferment, as all violent Motions both of Mind and Body, immoderate *Venus*, anger, heat of the Bed, &c. For he often observed (as I did in the foresaid case) that asthmatick Persons are always worst in Bed.

§. 9.

Sylvius in an *asthma*, *orthopnea* and *dyspnea* blames bad Vapors and Wind, chiefly austere ones, produced in the *intestinum tenue* of Phlegm, rarefied by Bile, arising partly by the Stomach and *oesophagus* to the Mouth, and then drawn in with the Air into the *bronchia* of the Lungs, and passing partly by the lacteal Vessels and thoracick Duct, then these fill and straiten the soft Lobes of the Lungs, and so hinder respiration. Nor in an *Asthma*, especially an *orthopnea*, does he exclude viscid Phlegm, falling from the Head into the *bronchia* and straitening them.

§. 10.

NOW let us see what the famous *Cartes* and his followers, *Regius*, *le Grand*, *Hogeland*, *Bræchsius*, &c. say. But before we come to the faults of respiration, it will be worth the while first to con-

der the true cause of the Motion of the Lungs, according to their mind, that we may the more easily know the defect of their Motion. Therefore, to explicate the action of respiration, the *Cartesians* suppose a subtle æthereal Matter; and they will have the Air only by its forcing forward from the Breast and *Abdomen* to raise Motion in the Lungs, and so to display them. Then, they say, the Motion of the circulating Blood is continual, which must necessarily be attended by a Motion of the animal Spirits, which Spirits by the Nerves do pass and traverse all the intercostal Muscles, the Muscles of the diaphragm, &c. Nor need any one wonder, that by the opening of one Pore in the Brain the Spirits flow into many Muscles, because the Tubes of the Nerves contain many Fibres under one and the same Membrane. The Muscles therefore according to them, are puffed up or contracted in their whole substance; wherefore it so comes to pass, when a large space is allowed to the Breast, that to avoid a *vacuum*, the external Air in some quantity is always driven inward, till the antagonist Muscles of those other, which are allotted to expiration, receive the Motion of the Spirits; and so the Muscles serving for inspiration, like Sails for want of Wind, flag, when the Muscles designed for expiration are contracted by the Spirits that went out of the former, and entered the latter. And *Bræchhausen* in *œconomia animali*, p. 175. believes, that inspiration and expiration is so performed, by the animal Spirits, which are then become total, that the Muscles, while the animal life lasts, are continually puffed up, according to the various mixture and motion

tion of the Blood. Whatever things therefore can keep out the Air, may cause an *Asthma* or *Orthopnea*: And we gather as much from this, That if Blood flow out of the Branches of the jugular Veins into these Parts, that afford a Passage to the Air, that is, the Muscles of the Jaws, and if it be detained there, as one may see in a Quinsy, a great difficulty of breathing arises thence; and if any such thing befall an Artery, there arises an *Asthma*. Thus it is collected from the Cartesian hypothesis, that this Disease has its rise from the substance of the Lungs and of the Intercoastal Muscles, which serve for respiration being hurt, that is, from the Nerves, designed for the intercoastal Muscles and other Organs of respiration, being obstructed, as It happens in a Scurvy and Apoplexy, which are always attended with an *Asthma* or *Orthopnea*. For in these respiration, is so hindered and abolished, that the original of the Nerves being either exactly, or in some measure obstructed, either few or no animal Spirits are sent by the recurrent Nerves into the Muscles, which are designed for elevation of the Breast, and by this means the elevation of the Breast ceasing, respiration it self also either ceases, or is diminished. So a great deal of Pus, because it fills up the cavity of the Breast, causes a straitness: for the Muscles, because of the incumbent weight, cannot do their office, and so a due expansion of the Lungs cannot be made.

§. II.

THIS was the Cartesian Opinion, now we will give you our own. First of all, however, we shall in general premise something concerning respiration. We think therefore that the Air, when the Breast is dilated for inspiration, does enter the Lungs, and they must of necessity be coextended to the cavity of the Breast; and in expiration, since the space of the Breast cannot be lessened, but by contracting it self in again, the Air must of necessity also be forced by the Breast out of the folding Lungs. The Lungs therefore are moved, not, as some would have them, by their own proper virtue, nor by the Heart, nor for fear of a vacuum; but the Air is the true and adequate cause of respiration, especially on the confines of the Globe of the Earth, where the Air has acquired a certain consistence and density. I could add several things about the elasticity and weight of the Air, and its Motion resulting from thence, to explain the obscurity of respiration; but since these excellent Persons, the magnificent *Otto de Guericke de vacuo*, the illustrious *Boyle in Experim. physico-mechanico de aëris vi elastica*, and *Majou in his tract de respiratione* have performed that task compleatly, I reckon it needless to treat curiously of all these things, and the rather, because it belongs more properly to a Philosophical enquiry. The motion of the Lungs and Heart is so necessary, that we cannot be without it a few Minutes of an Hour, but with hazard of our lives, which *Boyle's Air-pump* shows, in which, when the Air was exhausted,

sted, and not admitted again, Birds and Mice died within two, three, four, five, six or seven Minutes at most. We have hitherto been upon respiration in general with respect to the Air: if we consider it more particularly, the Heart moves by *systole* and *diastole*, and those Motions are helped by the dilatation and expansion of the Lungs. There was an erroneous Opinion of old, that the Motion of the Lungs and Diaphragm was performed in the manner of Bellows, and that they were filled, because they were distended, but this Opinion is built upon a rotten foundation. Without doubt there are several uses of respiration; the ventilation of the Blood, the exportation of fuliginous *effluvia*, the importation of nitrous Matter, the mincing and pounding of the Parts of the Blood, the pression of it into the Guts, the mixture of it in the Heart, the forwarding its Motion out of one Ventricle into the other, and the last perfection of the Blood by means of saline Particles in the Air, performed in the left Ventricle of the Heart, which subtilise the Blood, and fit it for breeding of animal Spirits: for there are saline, volatil Particles in the Air, wherefore it is called the secret Food of Life. And we think it probable, That the Lungs in respiration are not only puffed up and distended by the pressure of the Atmosphere, but by the elastick virtue of the Air. For Air is apt to get in at any hole; yea, it is very difficult to keep it out of the Air-pump as Boyle *de aere*, p. 196. shows. The Air by the Mouth and Nostrils rushing into the *aspera arteria* or *larynx*, insinuates it self into the Cavity of the

Lungs, and by the heat of the Part is much rarefied and dilated, which expansion being made, it exerts its elastick virtue, whereupon the Lungs are puffed up, and possess a greater space. And, if I be not mistaken, respiration seems to be nothing else, but the resolution and reciprocation of the Air enclosed in the Breast, and an alteration of the motion of the Lungs and Diaphragm, always however supposing a notable influx of the animal Spirits into the intercostal Muscles. There is no reason to the contrary, therefore, why we may not call the external Air the first original of the whole Motion: for Animals dy presently, when Air is denied them, as Boyle in his Physico-mechanical Experiments does sufficiently show. In short, two things are required for the performance of respiration naturally. 1. That a free Passage be granted to the ingress and egress of the Air by the pressure of the Atmosphere. 2. That the Air may be able by its elastick virtue duely to extend and expand the Lungs. As often therefore as these Passages are stoppt, or the expansion of the Lungs is hindered by any cause, respiration is variously hurt or diminished. In an *Asthma* therefore (that once we may come to what we would be at) sometimes the *bronchia* or Vesicles of the Lungs are obstructed with viscid Phlegm, Pus, Tubercles, tophaceous Matter, Stones, &c. as Diemerbroeck in his Anatomy, p. 510. has illustrated by an observation of dust gathering by degrees in a Servant, which bred a Stone in the Vesicles of the Lungs, and so an *Asthma*, which killed him at last: there are other such instances in the German *Ephemerides*. We do

not question also, but a pontick Salt in the Air falling upon the Throat, and so injuring the Vesicles of the Lungs, may produce this Disease. Sometimes also in a *dyspnœa* and *orthopnœa* the expansion of the Lungs is not hindred by want of Air that should pass to the Lungs, but through excessive rarefaction and ebullition of the Blood, sometimes by its stagnation, when it clots in the narrow Passages, sometimes by the convulsive irritation of the Nerves, which serve the Organs of respiration; and so we hold, an *Asthma* may arise. In some asthmatick Fits the Lungs being elevated and distended cause almost suffocation, which cannot come from Wind or Vapors: for Wind contained in the pulmonary Veins and Arteries cannot puff them up (since though you fit a Pipe to the pulmonary Artery, and blow in it, the Lungs swell not) nor can Vapors do it, since if they be contained in the Vesicles, they cannot easily be expelled with the Air. Wherefore, to come nearer the Point, we think that such Choakings proceed from the intercostal Muscles, and the Diaphragm being convulsed. For by their convulsion the Breast is kept too long in dilatation. In another case also we see how in hypochondriack and scorbutick Persons, the want of respiration puts them in imminent hazard of their Lives; as we observed in a Woman who died of it, through the excessive coagulation of the Blood in her Lungs. So likewise this Disease may arise from a sharp, lixivious, fluid and too bilious Blood boyling up preternaturally in the Heart, so that the Lungs remain puffed up, and respiration is stopt: for this virious Blood sometimes rushes vio-

lently into the Lungs, compressing its *bronchia* and Vesicles, and distending the sanguiferous Vessels, so that the Lungs cannot be duly relaxed and expanded again for the recetration of the Air. A moist *Asthma* (for we, as well as *Helmont*, hold there is a moist and a dry one) we derive from a viscid mucilage, lodged as well in the *bronchia* and Vesicles of the Lungs, as in the Stomach. Sometimes this Disease follows a little stagnation of the Blood in the *præcordia*: for we are verily perswaded, it may arise from a crude, viscid, acid and austere Blood, and a scrous chyle; because sometimes the chyle being carried into the right Ventricle of the Heart, by reason of its crudity and viscosity does not well rarefy; but being apt to stagnate and settle in the Heart, it increases its oppression: To relieve which, there comes a frequent respiration, that when the Blood is pumped into the Lungs, it may be relieved. Compare *Willis de feb. cap. 2.* with *de scorbut. c. 3.* Hence we find that several hypochondriack Persons an hour or two after Meal, or after morion of their Body, are troubled with difficulty of breathing, inasmuch namely as a crude chyle is brought into the Blood. So an acid Humor, mixt with the Blood, by coagulating it more or less about the *præcordia*, and disturbing its equal circulation, must notoriously stop respiration, as the famous *Etmuller* in his *chirurgia infusoria* proves, who says, that a friend of his poured Spirit of Nitre into the subclavian Vein of a Dog, which in a little time breathed with difficulty, and at length died, and there was coagulated and clotted Blood found in that Vein and in the Heart

Heart. The foresaid Physician tried another Experiment to the same purpose; he put a Drachm of Oyl of Sulphur *per campanam* into an Ounce of Water, and better; he poured it into the crural Vein of a Dog; he tied up the Wound, as it ought to be, and let the Dog loose, which being brisk, his Eyes staring wide open and clear, laid him down, and began to draw his Breath faster and faster, till at length he had some small Convulsions in his Mouth, then he breathed faster, and had a rattling in his Breast, he had now and then a convulsion Fit, till at length he died within half an hour after the Infusion. After he was dead, abundance of serous Matter came out at his Mouth, red like the washing of Flesh, abundance of viscid froth swimming at the top. When the Jaws of this Dog were opened, they and the *aspera arteria* were full of froth. When the *larynx* was squeezed on the outside, the Lungs looked of a dark red, especially over against the Ribs, as if Blood had settled there after a Contusion, and the Lungs, like sponges, were full of a bloody and frothy serum, that is, of abundance of little viscid Bubbles, and all the Branches of the *aspera arteria*, great as well as small, were in a manner obstructed with this froth. I tried the like in a Dog. See the English Philosophical Transactions Ann. 1667. n. 27. And I opened a Citizen, who died of an *Asthma*, and could attribute his death to nothing but to Blood coagulated in the pneumonick Vessels and the Heart, just as *Majou* found the pulmonary Artery and Vein, full of grumous Blood, in a young Man, who was taken with shortness of breath upon any quick

Motion. And none, that knows any thing in Physick, will deny, That a dry and convulsive *Asthma* may arise from some fault in the Nerves and animal Spirits: for the pneumonick Nerves, designed for the expansion of the Lungs, being through irritation spasmodically contracted, may hinder the reciprocal Motion of the Lungs; as the nervous Fibres of the *bronchia* being irritated, may so contract them, that the *larynx* may be quite stoped, and so a Man may be strangled, because sufficient Air cannot be admitted, either to the Lungs or Blood. So the same Nerves denying a Passage to the animal Spirits upon what account soever; that is, if they be obstructed or broken, may be a Cause of this Disease: as *Schenckius* saw the Motion of the Lungs taken away by cutting the Nerves. In a convulsive *Asthma* there is rarely a Cough or Ejection of Excrements; it ceases also for a time, and returns periodically, according to the Motion of the Moon. *Ettmuller* observed an instance of it in his Chamber-fellow at *Paris*; and we, in an apoplestick Person, who, after he was recovered of that, had a Palsy in his right side. The expansion of the Lungs may be hindered from without the Breast, when the Diaphragm has not room to play downwards, which happens usually when the *hypochondria*, Stomach or whole *abdomen* is distended with Wind or Water, or when there are spasmodick contractions in the Mesentery, for then the peristaltick Motion being inverted, the Diaphragm is forced towards the cavity of the Breast; so we see it is in the Dropsy, Tympany, Over-growth of the Liver, being with Child: for Women towards the latter end

of

of their time complain of shortness of Breath. Sometimes foul, malignant Fumes of Charcoal, Metals, Arsenick and Mercury (as in Chymists and Goldsmiths) may cause an *Asthma*. There is a wheezing in inspiration, because gross Humors stop the mouth of the Windpipe, so that the Air cannot get through without a whistling and a noise. One takes his Breath easiest with his Body upright, because the Bowels by their own weight are drawn downwards, and so room is made.

§. 12. *Prognostick.*

NOW follows the Prognostick. In general all hurts of respiration are dangerous. In hypochondriack and scorbutick Persons, they are not dangerous, nor incurable in themselves; yet because of the nobleness of the Place, and the coagulation of Blood in the Heart, they are not without danger; as not long since I saw a scorbutick Woman at *Hanover*, who not long ago died only of a dry or convulsive *Asthma* in two hours time, with her Senses entire, and without any dangerous Symptom preceding. This Disease uses to come at certain times of the Moon, and Seasons of the Year, especially Winter and Autumn; and by using proper Remedies it may be kept off a long time. But a scorbutick *Asthma* is a chronical Disease. A serous, precordial *Asthma* is easier to cure than a paralytick one, which comes from a depauperated, spiritless Blood. A scorbutick *Asthma* easily turns to another Disease, namely an Apoplexy, suffocative Catarrh, Epilepsy, Consumption, Cachexy or Dropsy; as *Timaeus l. 2.* has observed. Moreover an *Asthma* is scarce

cured in old Men, in young Men often. This Disease is often acute, and the violence of the Fit often kills a Man; but the serenity of the Air, sobriety of life, and rest of Body (of which hereafter) abate its violence. They that have naturally a strait Breast and small Lungs, and those that have very large ones, are apt to be asthmatick. An *Asthma* with swooning, a languid, intermittent, unequal, disordered and slow Pulse, argues death to be near. A trembling Breath is also dangerous, and so much the more, if the Shoulder-Blades, and intercostal Muscles rise and fall at the taking in and letting out of the Breath, especially if the strength is low.

§. 13. *Dietetick cure.*

THIS was the Prognostick. As to the cure, and first the dietetick, it now falls under contemplation. Among the Non-natural things, the Air is the first, which must be temperate, serene and dry, but not very hot; yet cold must be industriously avoided; for through the connivance of the Pores the Body exhales not, and the condensed Humors are difficultly got out at the usual Emunctories, and so injure the Lungs and their vesicles. An over-hot Air is hurtful also, inasmuch as the turgescient Blood, like new Wine, throws abundance of serum upon the Lungs and Branches of the *aspera arteria*, and infects the whole Mass of Blood: for what such the Air is, such generally is the Mass of Blood. Let sweet Scents be avoided, by Women especially, for the Womb is enraged thereby.

The Meat must be easie of Concoction, heating and attenuating,

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est the Matter grow thick; it must be mixt with moistners; Hens and Chickens are good. All a Man's meat must be seasoned with pectoral Aromaticks, namely, Marjoram, Thyme, Hyssop, Fenil, Aniseed, &c. Saffron is good here, whatever *Septalius* says to the contrary; so are Almonds, Raisins, Figs, &c. inasmuch as they smooth. On the contrary, let the Patient forbear all things that breed a thick and tough Juice, such as Flesh dried in the Smoak, Pork, Milk, Cheese, dry Pulse, &c. As for the *Drink* it must be a fine and small Wine; or one made of several pectoral Herbs and Spices. For Rusticks a decoction of Horse-dung may serve in Summer-time, or of Barly. Sweet drink made with Sugar must be forsook, and Spanish Wine, by preposterous using of which *Helmont tract. de asthma & tussi*, §. 10. observed an *Asthma* produced.

As to *Exercise*, it must be small; yet a little walk before Meal may be allowed; and in weak People Frictions of the out Parts may serve instead of it.

Sleep must be moderate and in the Night, sleeping in the Day and a long time must be avoided: for by long sleep many phlegmatick Excrements are gathered, which often cause our Disease. So *Watching* over-long, according to the great *Hippocrates*, 2. aph. 3. may mischief the Lungs.

The *Belly* must be kept continually loose, to avoid irritation. Hitherto also b long all usual evacuations, especially of Blood, which ought to keep their ordinary course.

We may add to these the *Passions of the Mind*, which must be moderate. One would think that Joy

should do good; but one may easily gather from what has been said, That excessive Care and Anger, as well as excessive Motion and Watching, cause an *Asthma*. For *Helmont* writes, That this Disease may arise from Anger, sad Tidings and and Chiding; for this reason further, that the Pores of the Lungs are obstructed by Anger, Fear, &c. and through that Obstruction they are irritated, and enraged by their innate Ferment, and so cause this Disease.

§. 14. Pharmaceutick Cure.

BUt beside these helps, we must go to stronger Remedies, and they are Pharmaceutick. The *Ancients* in the cure of this Disease, for correcting and carrying off viscid Phlegm, first give this or some such Clyster;

Take of root of Birthwort, Iris each half an Ounce, Leaves of lesser Centaury, Hyssop, Calamint each one handful, white Agarick five Drachms, boil them, add to a Pint of the Colature of *species hiera diacalogynthidos* one Drachm and an half, *dianarbith cum rhabarbato* five Drachms, Oyl of white Lilies, Chamomil, Rue each one Ounce, common Salt a Drachm. Mix them. Make a Clyster.

Then, when the Disease gives truce, they render the peccant Humors which oppress the Lungs, and fill the *aspera arteria*, obedient to Nature, by Preparatives and Incisers. Their Preparers are Honey of Roses, *Oxymel* simple and compound,

pound, of Squills, Vinegar of Squills, Decoctions of Elecampane-root. Dodder of Thyme, Liquorice, Maiden-hair, Hyssop, Horehound, Scabious, Betony, Raisins. Figs, Dates, *Gumajacum*, destilled Waters of the same Herbs, Myrrh, Gums, &c. Here is a Receipt or two;

Take of Syrup of Liquorice half an Ounce, *Oxymel* of Squills one Ounce and an half, *lobach* of Fox Lungs six Drachms, Gum Ammoniac dissolved one Drachm. Mix them. Make a lick. Or,

Take of root of Elecampane, Gentian, Fox-Lungs each two Drachms, *species diureticæ* four Scruples, Honey of Squills what is sufficient. Mix them. Make a lick. Or,

Take of Flour of Sulphur one Ounce, Berzoin one Drachm, Myrrh half a Drachm. Mix them. Make a fine Powder. Give a Scruple of it in a reer Egg, with a little common Salt.

Afterwards they endeavour to carry off the Humors so corrected and prepared, by gentle Purgers. Their Purgers are Trochiscs of Agarick, *diatribis cum rhubarbo, pilule abiesphaginae*, &c. Here is a receipt;

Take of Mass of Pill *Cochia* one Scruple, of Agarick two Scruples, the best Rhubarb half a Scruple. Make Pills with Syrup of Liquorice. Or,

Take of *diaphanicon*, *cassia* new drawn each half an Ounce, Trochiscs of Agarick one Scruple. Mix them, and with Sugar

make a Bolus for once taking.

The Ancients also hold, That Vomits are good in an *Asthma*, because sometimes Phlegm is lodged in the Stomach: therefore they give a Vomit of Radish root and white Hellebore, and that to good purpose: But they would have Men forbear both these and Purgatives in the time of the Fit; lest the Matter being disturbed by Medicine should all run into the Lungs. Then they endeavour to divert the peccant Matter by Frictions, Errhines, Sternutatories, Apophlegmatisms and Cupping-glasses: At length they give things to mollify and raise the Matter lodged in the Lungs, by the *aspera arteria*; in the number of which are things that promote Spittle, and strengthen the Breast and Lungs; such as Syrup of Liquorice, Jujubs, Hyssop, *lobach sanum, de pulvere vulpis*, Squills, *Millepedes*, Decoctions of Figs, Raisins, Hyssop, Liquorice, Honey, &c. Saffron. An Oyntment may be made for the whole Breast, of Oyl of Linseed, sweet Almonds, Dill. Rue, white Lilies, Chamomil, fresh Butter, Hens-graie, Mucilage of Fennugreek, Marsh-mallows, Saffron and *Iris* root. Divers Receipts of which you may find among Practitioners.

§. 15.

WE have hitherto been taking a view of the Schools of the Galenists, we will now go to the Furnaces of the Chymists. Who, according to their Master, insist upon a double Cure, and a double Indication. For if Patients bring up Phlegm, they dry; if not, they loosen. Their Cure is with Sulphur vive, Myrrh and *alstamaf*

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cara. As to the second Indication, *Paracelsus* advises to abstain from cold things in purging the Lungs, because such things are hurtful to the Lungs. He loosens what is dry, that it may the more easily be brought up, by *Elixir de tartaro crudo, essentia vini essati*, i. e. *sublimati*, Bawm-Wine, &c. In the Asthma of Miners *Paracelsus* prescribes several Medicines, as well preservative as curative. He highly extols Diaphoreticks, and the following receipt;

Take of Liquor of Tartar two Ounces, Oyl of Colcothar one Scruple, pure Laudanum half a Scruple. Mix them. The Dose three Grains once in a Month.

He commends *Munna Calabrina perlata*. He says, That Water of Sow-bread is a secret, which cures any Asthma without putrefaction. He commends Conserve of Roses, and *sal virioli dulce*, which rectifies the Lungs. Some of his Tribe commend Balsam of Sulphur, simple and with Turpentine, Flowers of Sulphur, &c.

§. 16.

Helmont holds, that an Asthma cannot be cured by any Remedy, unless it penetrate throwly, so as to conquer an Epilepsie. Therefore, according to him, generous strengthening Medicines are good for a moist Asthma; in regard both of the Lungs and their *archæus*. And all Antiepilepticks are good for an Asthma. So *Grembs*, *Helmont's* disciple, mentions one *l. 2. c. 1. §. 9. de pulm. de scil.* who was perfectly cured of the Epilepsie of the Lungs, that is, of an Asthma, by taking se-

ven Grains of Cinnabar of Antimony once a day for a Month. He also commends *balsamus sulphuris terebinthinatus* taken thrice a day in asthmatick Water, also Flowers of Sulphur sublimed with Saffron and Myrrh, and other things.

§. 17.

This in an Asthma endeavours two things; That in the Fit the Patient may be freed from present danger; and that the morbidick Cause may be removed, so as the Fit may not come so often. Therefore while the Fit lasts, the Patient must sit with his Body upright; and all endeavours must be used, that the Lungs and *aspera arteria* may not be stufft with gross Matter, or oppressed internally or externally. And that the Bowels may not press the Diaphragm upwards, and so straiten the *præcordia*, it will be convenient to give a Clyster. Also lest the Blood should ferment too much in the pneumonick Vessels, or lest the serum should fall too violently upon the tracheal Duets, all impetuosity must presently be stoppt, Blood must be let, and such things must be given as evacuate the serum and superfluities of the raging Blood, by Sweat and Urine, from the Lungs. Here is a receipt;

Take of Water of Ground-Ivy six Ounces, *lobach sanum* one Ounce and an half, Water of Self-heal two Ounces, *sal prunella* one Drachm, Syrup of red Poppies one Ounce and an half. Mix them. Make a Julep.

He also commends six drops of of Tincture of Sulphur given Morning

ing and Evening in the foresaid Julep, or the following Powder;

Take of *facula ari*, *bryonia* each one Drachm and an half, Flowers of Sulphur one Drachm, *benzoin* half a Drachm, Sugar-Candy half an Ounce, Powder of Liquorice two Drachms. Mix them. Make a Powder. Give half a Drachm twice or thrice a day.

But where a Man finds abundance of viscid and tough Matter, he advises this following;

Take of *aqua asthmatica* one Ounce and an half, Syrup of Horehound, Garlick, Tabaco each half an Ounce, Tincture of Saffron, Castor each half a Drachm. Mix them. Let the Patient take a spoonful or two of this mixture. Or,

Take of Water of Snails, Worms each two Ounces, Syrup of Horehound, *Oxymel* of Squills, Spirit of Sal Ammoniack, with Gum Ammoniack two Drachms. Mix them. Or, for the Poor;

Take of Powder of Hedge-mustard or ground-Ivy one Ounce. Mix them with a sufficient quantity of *Oxymel*, for a *Linctus*.

This was the first Indication. The next was, That the motive Parts of respiration might be freed from Spasms. For which end he advises to have recourse to antispasmodick, antihysterick and anodine Medicines, as to the last refuge; such as Tincture of Castor, Amber, Spirit of Harts-horn, Soot, sal Ammoniack Volatil, Tincture of Sulphur, *assa fetida*, *Oxymel* of Squills; and un-

less there be a great stuffing of the Lungs, and oppression of the *præcordia*, Opiates will be admirable good, inasmuch as they reduce the enraged animal Spirits into order: wherefore the Author has often given *diancodium* and *laudanum tartarifatum* with good success. And in the Fit, that he may divert the Matter to another place, he advises Blisters, Cuppings, Frictions, painful Ligatures, yea, and Vomits in the very Fit. Now what he does out of the Fit, consists, 1. In amending the conformation of the Lungs. 2. In removing the disorders of the Spirits, which are designed for the Lungs. He uses the following Remedies;

Take of Gum Ammoniack and *Baelium* dissolved in Vinegar of Squills half an Ounce, Flowers of Sulphur two Drachms, *Benzoin* one Drachm. Mix them. Make small Pills. Take four or five of them in the Evening. Or,

Take of prepared *Millepedes* two Drachms, Flowers of *Benzoin*, Salt of Amber each two Scruples, extract of Elecampane, Castor each half a Scruple, Saffron one Scruple, Turpentine what is sufficient. Mix them. Make Pills. Take four every Evening and Morning. Or,

Take of water of *Loboch Sanum*, Snails, Worms each one Ounce, *Elixir Pefforale*, Spirit of Gum Ammoniack distilled with Sal Ammoniack each two Drachms, Tincture of Saffron one Drachm and an half, *Oxymel* of Squills six Drachms. Mix, and take it by Spoonfuls. Or,

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Take of Tincture of Gum Ammoniack, Sulphur each two Drachms. Mix them. Give ten Grains or more at once.

He also highly values Syrup of Elecampane described by *Horatius Augenus*, which I shall here set down;

Take of Root of Elecampane, Polypody each two Ounces, Currans one Drachm and an half, *Sebestan*, Coltsfoot, Lungwort, Savory, Calamint; each one handful, one Leaf of Tabaco, scraped Liquorice two Drachms, Seed of Nettles, Cotton each half a Drachm. Boyl them in small Mead to a pint and an half, and with as much Sugar make a Syrup. Give a Spoonful of it Morning and Evening in form of a *Linctus*, or mixt with other things. Or,

Take of powder of Crabs Eyes one Drachm and an half, volatil Salt of Amber half a Scruple, *species diatreas simplex* two Drachms, *Sperma Ceti* half a Drachm. Mix them. Make a powder for several times taking in Broth or some other proper Vehicle.

Beside the things aforesaid he questions not, but Purgings, Bleeding and Blisters raised on the inside of the Arms near the Armpits sometimes do good,

§. 18.

Sylvius advises first of all to remove the Obstruction, if there be any, in the Nose, Jaws, and Larynx; and then to Cure the Shortness of Breath (which is caused by the heat and rarefaction of

the Blood) by Bleeding and giving temperate Acids, as Salt Nitre, *Lapis Prunells*, &c. So the straitness of the *aspera arteria* will be cured by removing the cause of that straitness, whether it be any viscid Humour, Apostem, grumous Blood, or thick Pus, which causes it. Therefore all inciding Medicines are good, for which end he allows of Vomits: But he excepts spitting of Blood, in which a Vomit is always dangerous. He will have difficulty of Breathing, if it comes from Vapors produced by Phlegm and Bile in the *intestinum tenue*, to be cured by amending the viscid Phlegm and evacuating it, and also by correcting or evacuating the Bile. If it abound, here is a receipt of the Authors.

Take of Gum Ammoniack dissolved in Vinegar half a Drachm, choice Mastich one Scruple, Trochisces of *Albardal*, resin of Scammony each twenty five Grains, volaril Salt of Amber five Grains, Oyl of Myrrh two drops. Mix them. Make thirty Pills. Let the Patient take five or six in the Morning fasting, and drink some Broth an hour after. Or,

Take of root of Elecampane half an Ounce, Galangal two Drachms, Polypody of the Oak half an Ounce, leaves of *carduus benedictus*, Lungwort, lesser Centaury, white Horehound, Spleenwort each one handful, Leaves of *senna* one Ounce and an half, Trochisces of Agarick one Drachm and an half, black Hellebore half a Drachm, Aniseeds, prepared *millepedes* two Drachms, crude Tartar half an Ounce, Ginger one Drachm and an half. Cut them for a Bag. Put it into three Pints of Wine. All

All Carminatives, Diaphoreticks, Aromaticks, Bechicks, &c. are good, According to him, if phlegm fall from the head on the Lungs, to cut and evacuate the Phlegm that is gathered, he advises Aromaticks and Phlegmagogues, also Er-rhines and Masticatories, whereby he may evacuate thick Phlegm by the Mouth and Nostrils.

§. 19.

Curtis and his Followers commend all such things as remove Obstructions of the Vessels and Lungs, and which regulate the disorderly Motion of the animal Spirits. Among which things, Aromaticks and volatil oily things do excel: for by the volatility that is in them, they are able to remove the visciditv and obstruction of the Lungs. They prefer *tinctura bergartica*, *aqua theriacalis camphorata*, *sal volatile oleosum Sylvii*, *disphoreticum Cranii*, and all manner of volatil Salts: for instance;

Take of Water of Cinnamon one Ounce, *aqua asthmatica*, *laboch sanum* each six Drachms. *elixir pectorale* one Drachm, Essence of Elecampane half a Drachm, volatil Spirit of sal Ammoniack twenty drops, Syrup of Hedge-Mustard one Ounce. Mix them.

According to their Indication, Decoctions of the Woods will be proper, which consist of hard Particles. In the-fit they extol *Sperma ceti* given from a Scruple to a Drachm in some warm Beer or Broth. If this Disease arise from Pus, it may be cured by evacuating the said Matter. Concerning

which see the next Chapter of an *Empyema*.

§. 20.

Since we have seen other Mens Opinions, we must now give our own. We therefore endeavour, 1. In the Fit to ease the difficulty of breathing and to free the Patient from present danger of death. 2. To find out and extirpate the morbidick cause, as far as we are able, that the Fit may not return. The first we call Curatory; the latter Preservatory. And since this intercepted Motion of Breathing does often sieze scorbutick and hypochondriack Persons, we must therefore have regard to the Scurvy and Melancholy. We therefore, with *Willis* and *Helmont*, make a two fold Asthma; a moist or serous, and a dry or convulsive. Now lest the Heart should be stifled by a serous Asthma, whether it come from an ebullition of scorbutick serum, or from a sudden coagulation of grumescient Blood in the narrow Passages of the Lungs, or in the Heart, presently Medicines must be given, which attenuate and restore the circulation to the Blood, when for thickness it stagnates in the narrow Passages of the Lungs, (whether it be caused by an Acid, or a fixt Salt, or poisonous Mercury.) In this case therefore we bleed without delay: for when the quantity is lessened, what remains may the more easily pass the pneumonick Vessels; and so a liberty of breathing will be restored. To dissolve these coagulations of Blood, generally caused by an Acid, all volatil, aromatick, oily, spirituous, balsamick volatil, cutting, precipitating things, &c. are good. I

this moist Asthma have its rise from a viscid mucilage lodged in the bronchia of the Lungs, and in the Stomach, all hot Thoracicks mixt with Antiscorbuticks are proper, such as are all spirituous, balsamick, volatil, cutting things, and such as correct Acidity. Among which we have observed these to be particularly good, Spirit of Gum Ammoniack, made with Sal Ammoniack, volatil Salt of Amber, Harts-horn, Soot, Mans-Blood, Sows, Ants, *balsamus sulphuris anisatus*, & *spiritus asthmaticus Michaelis*, which is made of Nitre, Sulphur, Gum Ammoniack, &c. Some in this case use volatil oyle Salts. Here follows *sal volatile oleosum nostrum*;

Take of Tincture of Sulphur one pound, Salt of Tartar half a pound. Let them stand together on a Tile several hours, till the Mass be heaved up no more, but sink and look of a liver Colour, then pour the Mass upon a wet Board, and powder it. Pour upon it a measure and an half of Spirit of generous Wine. When it has stood a Night, and the Tincture looks high coloured, add of red Myrrh one Ounce and an half, root of Angelica two Ounces, Saffron half an Ounce, Treacle four Ounces, Mummy three Drachms, Cinnamon one Ounce, Camphore two Drachms, volatil Salt of Harts-horn half an Ounce, Oyl of Amber, Aniseed each five Drachms. Let them stand mixt for a time in a Vessel well stopp'd, then decant it. The Dose is from five drops to ten and more.

Here are other Receipts for a moist Asthma;

Take of *aqua asthmatica*, *loboch farnum* each one Ounce and an half, Spirit of Gum Ammoniack one Drachm, volatil Salt of Amber, *sal volatile oleosum pectorale nostrum* each half a Scruple, Essence of Elecampane one Scruple, Syrup of Cinnamon one Ounce. Mix them, for several times taking.

The following mixture cured an Illustrious Prince of asthmatick Fits successfully.

Take of *aqua asthmatica* one Ounce, Water of Hyssop one Ounce and an half, Coltsfoot, Ladies-Thistle each two Ounces, Speedwell drawn from the Juice one Ounce, Syrup of Jujubs one Ounce, *Tinctur. propr.* three Drachms. Mix them.

For we must observe in an Asthma always to change and alter our Medicines, as *Septalius* p. 160. §. 149. has taken notice. Because it is a Disease, that cannot be cured violently and on a sudden, but by continual and frequent taking: for the obstructions ly in the Tubes of the respiratory Nerves; and these Tubes are very narrow and so open slowly; and the Lungs are a tender Part, and cannot endure much violence. Here follows a Receipt;

Take of *Sperma ceti* one Drachm, Flowers of *benzoin* half a Drachm, Myrrh, volatil Salt of Amber each half a Scruple. Mix them for four Doses. Or,

Take of *millepedes* Wine four Ounces, Syrup of Horehound, Hyssop each two Ounces, Essence of Elecampane three Drachms. Mix them. But

But if an *Asthma* come from stuffing of the Lungs with a thick, viscid Matter, this following will be proper for nice People, giving a Vomit or Purge first.

Take of Juice of Radish, Hedge-Mustard, Tabaco each half an Ounce, extract of Saffron half a Drachm, Water of Mint, Hyssop each one Ounce. Mix and give it by spoonfuls.

This of *Brunnerius* is a good asthmatick Potion;

Take of Gum-Ammoniack half a Scruple, Water of Hyssop four Ounces, white Rhenish Wine three Ounces. Dissolve them over the fire according to Art. Add of Syrup of Horehound half an Ounce. Mix them.

This mixture, which was much used by the late Prince of Orange, is worth the observation;

Take of *aqua carbunculi* two Ounces, *mel scilliticum* one Ounce. Mix them. Take a spoonful at once.

This that follows of *Helfricus Junckius* in his *Medicus presenti temporis accommodandus* will be excellent in an *Asthma*, that comes from an astringent acid;

Take of *aqua carminativa* *Derteri*, *veronica essentificata* each one Ounce and an half, *asthmatica* one Ounce, Essence of St. John's-wort one Drachm, volatil Salt of Man's Blood half a Drachm. Rue one Drachm, *theriaca celestis* three Grains, *confectio alkermit* half a Drachm, Syrup of red

Poppy what is sufficient. Mix them. Or,

Take of *aqua asthmatica* *Rudölphi* two Ounces, Water of Rape Flowers one Ounce and an half, *Oxymel* of Squills two Ounces, Spirit of Gum Ammoniack with Vitriol one Drachm. Mix them.

Difficulty of breathing, which continually afflicts hypochondriack and scorbutick Persons, and depends upon an over crude and viscidus and a dispirited Blood or Chyle, will be cured when the original Disease is cured: regard therefore must be had to it. The case is the same, if this Disease proceed from excessive fatnets or corpulence, as I have often observed: for when the corpulence is abated the *Asthma* ceases, in which case we may very well use Vinegar of Squills. We observe the same in Women with Child, and such as are troubled with Tympanies and Wind, when they are well of the principal Disease, the *Asthma's* cured. If it came from the Bellys being full of Wind, and thereby pressing the Diaphragm, it will easily be cured by carminative Clysters, and by taking carminative things inwardly. Here is a receipt;

Take of Water of Mint, Zedoary each one Ounce and an half, Spirit of Citron Rind, *bals. embryon.* each half an Ounce. Mix, and give it by spoonfuls.

In this case also these things are proper; *spiritus carminativus Syl-vii*, *essentia carminativa wedellii*. described in his *Opiologia*, *anticolicum Michaelis*, *spiritus nitri dulcis*, &c. Sometimes a great load of viscid Phlegm

Phlegm lies in the Stomach, oftentimes attended by inflation of the Stomach and Guts, Spasms of the nervous Fibres, and by consequent an *Asthma*; which viscous Matter must be dislodged by a Vomit, whereby *Timæus l. 3. c. 13.* when he had tried other things to no purpose, cured an old Man, giving him *aqua benedicta Rulandi* at times, which voided a great quantity of Phlegm upwards and downwards. In a præcordial *Asthma* I never found a better Medicine than Vomits carefully given: for the violent Concussion shakes out that which is got into the Nerves. Which appears from *Primrose de morb. pueror.* who presently cured Children of an *Asthma* by voiding this viscid Phlegm, which is usually lodged in the Stomach. Instead of Vomits, we give nice People Gum Ammoniack with a little Resin of Jalap. We also apply hot bags of paregorick and carminative Herbs boiled in Wine, to a windy Stomach; or *Emplastrum ex ladano Cratonis*, or *carminativum Sylvii* to a weak Stomach, or our stomachick mixture of Chocolate, Balsam of Cinnamon, Oyl of Nutmeg and Sack. Essence of Elecampane given in drink is admirable good; some commend Essence of Wormwood.

These things we have hitherto mentioned, are good for a moist *Asthma*; now we will briefly see what will be good for a dry or convulsive *Asthma*, or an Epilepsie of the Lungs. In which case Patients are miserable; partly because they are ill handled by unskilful Physicians; partly by reason the cause often lies in the very animal Spirits, which should flow to the Muscles of the Breast, but do not, and so the Breast can neither heave nor

fall. Here therefore all pectoral things are proper, which respect the coagulating acid Particles, which fight with the secret alkaline Part, and cause shortness of Breath; such are Antispasmodicks, Antiepilepticks, Balsamicks, and Medicines endued with sulphureous, saline, volatil Particles; or volatil Acids, which rectify a crude Acid, relieve the Spirits, and cherish the nervous Fibres. These excel, *Sperma ceti*, *millepedes*, Earth-worms, Beetles that live in Horse-dung, Ants, of which divers volatil Salts, Spirits and Oyls may be made, very proper for this use. Here are receipts;

Take of Spirit of Worms, Beetles each one Drachm and an half, *Sperma ceti* dissolved one Drachm, Essence of Saffron half a Drachm. Mix them. Make an Essence. Give fifteen drops.

Or rather the following Antiepileptick. For *Helmont* holds, That whatever cures an epileptick, will cure an asthmatick Person;

Take of Amber prepared, Elk's-hoof prepared, native Cinnabar each half a Drachm, *millepedes* prepared one Scruple, Castor half a Scruple. Mix them. Make a Powder for three Doses, to be given in a proper Vehicle; namely, Linden-tree-Water.

All Cephalicks and Nervines are also good here; especially Medicines made of Castor and Cinnabar, Spirit of Soot, Sal Ammoniack, Hartshorn, Sage, Rosemary, Essence of Castor. Saffron, *specificum cephalicum Michaelis*, volatil Salt of Amber, Man's-skull, Horn of an Elk, *rhinoceros*, &c. Also for correcting the saline

saline or acid Acrimony, which irritates the nervous kind, Precipitants and Absorbents mixt with the foresaid Antispasmodicks are good; for instance;

Take of Crabs-eyes prepared half a Drachm, oriental Bezoar three Grains, *Sperma ceri*, prepared Amber each half a Scruple. Mix them. Make a Powder.

In a Fit also of this convulsive Disease we have often with admiration observed deured success from the use of Opiates, that is, a few Grains of *laudanum opiatum* dissolved in some convenient Water and given by spoonfuls. If half a Drachm of *Sperma ceri* with a little *Laudanum* be added to *Brunnerus* his Potion, it often proves effectual. When an *Asthma* comes from an Itch or Gout driven in, volatil Diaphoreticks will be good to drive out again. But if there be heat and an ebullition of Humors (as in Fevers) more fixt and temperate rhings, which precipitate what is hurtful to the urinary Passages, are most proper, such as Crabs-eyes, *Antimonium diaphoreticum*, &c. Then

Nervines and Paregoricks may be outwardly applied to the Breast and Diaphragm, such as Oyl of Chamomil, Castor, Amber, Lavender, Oyntment of Marsh-Mallows, divers Greases and Cataplasms made of roasted Onions: for instance;

Take of mucilage of Marsh-mallow, Linseed. Fenugreek drawn with Hyssop-Water one Ounce, Powder of Florentine *Iris* one Drachm and an half, Gum Ammoniack dissolved in Elecampane Wine two Drachms. With a sufficient quantity of Oyl of *Iris*, sweet Almonds and Wax make a Liniment.

The Breast may be anointed with spirituous, castorine Medicines, volatil Saks, &c. I have often burnt the Breast with *Moxa*, and had good success. Our *Moxa* made of Mugwort, is as good as that which comes from the *East-Indies*. We do not wholly neglect Scarifying, Bleeding, Blistring, Cupping, Friction, Pouring cold Water on, and several other things. For according to the Poet,

A cane non magno saepe tenetur aper.

CHAP.

CHAP. III.

Of a Pleurisy and Peripneumony, or Inflammation of the Lungs.

§. I.

BEfore we proceed, we must tell you, that we, as well as *Baltonius*, do comprehend these two Diseases under one name of *Pleuripneumony* or *Pneumopleurisy*; so that as it participates more of the nature of the one Disease than the other, it may be denominated accordingly. An Inflammation of the Lungs is called a *Peripneumony*, of the *Pleura* a *Pleurisy*: inasmuch as the Blood in its Fermentation discharges its viscous refuse, sometimes on the one part, sometimes on the other. *Belmont* aimed at as much in his *Traët de pleura furent.* p. 247. v. 27, where he says, that a *Pleurisy* differs from a *Peripneumony* neither in occasional Causes nor Remedies. Since therefore the *Idea* of them is one and the same, their explication should be the same: for they differ only in place. We therefore describe a *Pleuripneumony*, to be an *Inflammation of the Lungs on one or both*

sides, or of the Pleura, joyned with a great difficulty of Breathing, an acute Fever, a violent Cough, sometimes dry, sometimes with frothy Spittle, and frequently Bloody, with oppression in the Breast and about the Heart, depending generally upon too hot a Blood, which being stop'd in its Motion, stagnates, at length evasates, turns sowre, and vellicates the Fibres. There is also a *Phlegmatick Pleurisy*, of which sort I saw several this Winter. From the Definition it is evident, that every pain in the side may not be called a *Pleuripneumony*, but only that which follows an acute Disease, and is attended with the aforesaid Symptoms. For if the Inflammation lie in the outer Muscles, or if a violent pain be caused there by Wind, it is but a bastard Disease; because there is no Fever nor spitting of Blood: A pain indeed is felt in the region of the Breast, which is in some measure exasperated by touching; yet it is not so stable, but abates by applying things that disperse wind. And because precepts teach, but examples

examples delight; I will therefore give you a Case.

A Case.

A young Man of a Sanguineo-Choleric Complexion, being in good health, and given to feed heartily, and walk much (till then, without any inconvenience) walked out in the Month of *March*, in a cold Air, comes home weary, and drinks a good draught of cold Beer to quench his Thirst, and refresh him. He was taken with a shivering all his Body over; he goes to sleep, wakes four hours after, and feels an obscure pain under his left Pap, shooting towards the *Hypochondrium*. The next day the pain encreased and became pricking, a Cough and Fever afflicted him; at length he spit blood with a great decay of Strength and violent thirst; all which are signs of a Pneumopleurisy.

§. 2. Part affected.

AS to the part affected, Physicians generally place a Peripneumony in the Lungs, and a Pleurisy in the Membrane, *Pleura*; yet some deny, that the Lungs are a Part affected, because they are quite insensible. *Diocles* holds, that the Veins of the Lungs are here affected. *Crastratus*, the Arteries. *Asclepiades*, the *Bronchia* of the Lungs. *Stratus*, the Lexicographer, the whole Body; but he holds, that the Lungs are the worst. We undoubtedly hold, that in this Case the Lungs, and especially their Membranes (for a pricking pain can be ascribed only to Membranes) that cloath both the Ribs and Lungs, to wit, some-

times only the *Pleura*, sometimes both the Membranes and Lungs are affected and inflamed; for the substance of the Lungs is very subject to Inflammation, because it is soft, spongy, rare and porous; wherefore the Pores may easily be obstructed, and erysipelaceous Inflammations may ensue, whence either a Pleuripneumony or a Pneumopleurisy arises. *Hippocrates* is of our judgement, who in several places, but especially *de loc. in homine*, text. 24. says expressly, that in a Peripneumony both sides are affected, but in a Pleurisy only one is hurt. Nor does *Demetrius Herophilus* differ from the said opinion, when he says *lib. 12. de passime*, that a Peripneumony is a swelling in the whole Body of the Lungs, and a Pleurisy only in part of them. *Bonetus* in *Anatomia pract.*

1. *Platerus*, *Celsus* and others prove it by dissections of dead Bodies, in which, they say, they do not always find the *Membrana costar succingentes* inflamed, but the Lungs and their Membrane torn and corroded. We do not question also but there may be one about the intercostal Muscles. For we saw a young Man, who under his left Arm, about the intercostal Muscles, voided at times four pounds of purulent and serous, coagulated matter, whom we cured, and he is now living and in health. For that of *Hippocrates* is most certainly true *Secl. 5. aph. 8. Whoever are taken with a Pleurisy, and spit not well in fourteen days, they turn to suppuration.*

S. 3.

NOW we have seen the part affected in this Disease, we must go to the Diagnostick. Which gives us such Signs as show the Disease and its Causes; or distinguish this Disease from all others. This Disease is shown sometimes by a pricking pain, sometimes a dull one, sometimes accompanied with heat, and often encreased and exasperated by continual breathing: for the sudden encrease of pain causes Inflammation, therefore the place cannot endure to be touched. For if you press directly upon the intercostal Muscles, and irritate the Nervous Fibres, the pain is intolerable; because the evacuated Blood every hour acquires greater acrimony, whereby the Membranes are inflamed and vellicated, whence flows that exquisite pain. And a dull pain arises, when the Inflammation is in the fleshy substance of the Muscle, which because of its Nervous Fibres is in some measure sensible; yet so as to be in a far less degree than the former, and this pain also shoots sometimes to the *Hypochondrium*, sometimes to the Collar Bone. Sometimes it throbs and swells, that is, because the Muscles are Inflamed, and while it turns to suppuration, as in our fore said Patient. There is a continual encreasing Fever in these Diseases, undoubtedly from the troubled mixtion of the Blood, especially when *pur* comes on, which Fever has a fit every other day, especially towards Evening; because at that time when the Sun goes down, the Pores of the Skin are shut, and transpiration being thereby hin-

dered, the effervescence of the Blood is greater, and by consequent the mixtion of it more troubled, caused chiefly by sharp or bilious particles lodged in the mass of Blood. There is difficulty of Breathing, because the Breast cannot commodiously be dilated, then inspiration is interrupted; wherefore it must needs be weaker. And since such respiration is not sufficient to temper the effervescent Blood, the smallness must be made up in frequency; therefore the Pulse is frequent and quick. The Pulse also in this Disease is soft, great, quick, unequal, intermittent, recurrent or beating double. The Cough is exceeding violent, inasmuch, that is, as evacuated Blood being grown sharp is able insensibly to enter the lax Lungs; but at the first indeed it is not in that quantity in the Lungs, that any great quantity can be spit up, because the heterogeneous matter is so intimately riveted into the Lungs, that it cannot come at the *Bronchia*, wherefore it is impossible, it should be coughed up: yet Blood is often spit up in a Pneumopleurisy. For the Blood being grown sharp, passes the open Pores of the Lungs; and as the afflux of Blood is greater or less, so more or less Blood is voided. In this Disease also Spittle of divers colours is raised; at first it is red and bloody; when it comes to maturity, it is purulent. If nothing be spit, it is bad. I have often seen *Pur* raised, without any avoiding of Blood first. The Cheeks are red, because sharp Particles of the Blood are sent thither. They are troubled with unquenchable thirst, because sharp Particles are sent to the Throat and Tongue, which makes

makes them dry, and by consequent such Patients must love moistening things. They generally ly on their backs, or sit up.

§. 4. Cause.

These things premised, we will proceed to the Causes. And according to the Ancients the immediate cause of this Disease is an Inflammation of the *Pleura* in the *Pleurisy*, and of the Lungs in the *peripneumony*. Their mediate cause is Blood, flowing out of the *vena cava*, through the *vena sine pari*, into the small Veins of the Ribs, or into the Membranes; as one may conclude from the red Spittle, Spring-time, Youth, and Manner of living, which breeds much Blood: Sometimes it is Phlegm, and then the Disease is of longer continuance, the Spittle is frothy and white, the Disease happens in Winter-time, the constitution of the Air and Clime is cold, and the course of Life breeds phlegmatick Blood. They say a *Pleurisy* differs from a *Peripneumony*, because the former comes from a subtil, bilious and bloody Cause; and the latter proceeds generally from a thick and phlegmatick Matter, running by the Veins and Arteries into the substance of the Lungs.

§. 5.

The next thing is to see what the Chymists say. And they call the Cause of these Diseases, an *Ogertine Salt*, which is of an arsenical and orpimental property, by its Acrimony easily corroding the Blood-Vessels and Membranes, and so able to cause a *Pleurisy*. Hence they earnestly contend, That these

Diseases have their rise from a tartareous and mucilaginous oppilation. Paracelsus speaks something of this, but obscurely, c. 4. tract. 1. de morb. metall. where he says, a *pulmonia*, and resin is bred of the *Chaos*, in which the Star and Mine of Orpiment is decocted. But these things are so obscure, that we shall not waste any more time in them.

§. 6.

Helmont in the rage of the *Pleurisy* considers, first the internal mover or spur, and then the dilacerator of the *Pleura*. He considers it as Blood running thither, and as an Apostem arising from thence; and he brings an example of a place prickt with a Thorn. In his Opinion, therefore, the cause of a *Pleurisy* is a foreign Acidity, conceived in the *Archans*, which is driven into the *vena arygos*, yea and into the adjoining flesh of the Ribs, and thereby a morbid Product, an Apostem, is created. For an acid Blood sometimes coagulates, contrary to the nature of the Veins and Flesh. He proves. That there is something of an acid in a *Pleurisy*; by this reason, namely, that in a *Pleurisy* the Urine and Blood turn thick as they come out, which grumescence and curdling is an argument of acidity. When this acid juice falls upon the intercostal Flesh, it causes a *Pleuritick* pain: but when it is dispersed by the infected *Archans* into the *Vena Arteriosa* or the *Arteria Venosa*, it causes a *Peripneumony*. He is convinced by his own experience, that this Disease does sometimes reside in the Lungs.

§. 7.

§. 7.

THe famous *Miltilis* makes the the proximate cause of a Pleurisy to be bad Blood, by reason of its viscosity detained or extravasated in the lesser Vessels of the Membrane, called *Pleura*; and in a Peripneumony, in the greater pneumonick Vessels. Which being gathered there in abundance, causes an Inflammation. He derives the pricking and sharp Pain from the solution of continuity in a membranous and very sensible Part; difficulty of breathing, from the hurt of the muscular Fibres; and the Fever, from the excessive Effervescence of the Blood. Among the more remote Causes he reckons all such things as make the Blood to grow clammy and effervescent, and cause a febrile turgescence. Therefore sudden alterations of Heat and Cold may cause a pleuripneumony, and so may high drinking, and immoderate Exercise, inasmuch as these things disturb the Blood and encrease its Effervescence.

§. 8.

Sylvius, as most do, makes the immediate cause of these Diseases to be an Inflammation of the *Pleura* in a Pleurisy, and of the Lungs in a Peripneumony. And he holds, That the Blood is inflamed, when it runs out of its Vessels, and afterwards stagnates and coagulates: Whereupon the volatil and subtil Particles vanish, that used to temper the acid and saline ones, and so both growing sharper, struggle the more violently one against another; and because of the oily Parts in the Blood they cause a hot

effervescence, and by degrees do so corrupt the Blood, that it turns to Pus of divers colours; sometimes black, sometimes yellow, sometimes tinged with Blood, according to the variety of the corrupt Blood. But you may find more of this in our own Opinion: therefore we shall avoid repetitions.

§. 9.

THe *Cattellians* derive this Disease from a Matter that distends, pricks and corrodes the *pleura* or Lungs; which Matter is nothing else but the sharp, and volatil Particles of the Blood, that are extravasated. For if the Blood be over-much moved by remote causes, it is easily evasated, as too great Waves force the Water over the Banks: violent Motions therefore either of Mind or Body may produce these Diseases; Anger, Fear, immoderate Exercise of the Body, Riding, Dancing, Playing at Ball, &c. Sometimes the Blood is too spirituous, and of too rare a texture, and so is more fluid and runs quicker through the Body; and when its bilious, sharp and volatil Particles have got into the small Arteries, and by their Acrimony corroded them, or by their violent Motion burst them, they grow sharper, and being carried into the *Pleura* or Lungs, their figures do not agree with the Pores of the Parts, and so they stop, and cause one of these Diseases; sometimes a Blood, full of these vitious Particles, is poured into the intercostal Muscles; and then a difficulty of breathing and desire to Cough, arise, when the nervous Fibres of the Lungs or *bronchia* are irritated by the fore-said Particles. They ascribe the Fever

Fever also to the subtil Matter acting upon these irregular Particles, and so causing Heat and Cold. For it is an argument, that the effervescence may be increased by Pus or coagulated Blood, because it is so in Wounds or Swellings, when they tend to suppuration, though the Place be far from the Heart.

§. 10.

BUT now we will give you our *Bottom Opinion*. And for better illustration of the Matter, we will premise something concerning the Blood. Now this fountain of life is contained in its Vessels, namely the Veins, Arteries and Muscular Fibres; it also consists of its Elements, as every one knows, which while they amicably concur one with another, and while the Blood circulates aright in the foresaid Vessels, the Body is kept in its vigor, because of the exact commixtion and agglutination of this vital Liquor for the nourishing of the Parts. But wherever the Blood is spilt in our Body, or stops, there it turns into a lowre Ferment. As long as the well constituted Blood is contained within its Vessels, so long the salubrious Actions of our Bodies last, the true signs of Health; but if the Blood, by Solution of Continuity, get out of its Vessels, then these pectoral Tragedies are acted. Nor do we here blame only the effusion and evasation of the Blood into the aforesaid Parts, but sometimes an over fluid and sharp *Serum*. For there are no Humors, which when they are evasated in any Part, but will, if they tarry there long, acquire an Acidity; because they have then lost their Spirits. If therefore these acid Particles, strug-

ling with the sulphureous, and so causing an effervescence, predominate about the Lungs, they cause a peripneumony, and hence comes sometimes an Apostem and an Ulcer: If about the *Pleura* and Muscles of the Breast, they cause a Pleurisy. We hold, That the Thorn in the Membranes, is in these Diseases, an inept acidity of the Blood, fermenting with its volatil Salt, and disposing to a grumescence, and so some Vessel being obstructed, there follows a stagnation, coagulation and inflammation. Therefore we say, That these concatenated Diseases are nothing else, but a preternatural fermentation of the Blood, poured out of its Receptacles; in which fermentation the sharp Particles do by their Points vellicate the membranaceous Parts, and being intimately fixt in the nervous Fibres, they make a concussion therein, which because it is continued to the origination of the Nerves, a sad Sensation cannot chuse but arise, which we call *Pain*. And it is various, pungent, rending, throbbing, dull, distending or corroding, &c. according to the Nature of the Part affected, its manner of being affected, and the Quality of the Spirits and concurrent Particles of the Blood. And so much for the immediate Cause.

And as for the remote Causes they are several. I have often seen these Diseases caused by hindrance of insensible transpiration: therefore a bad Air is generally the occasion of this Disease. Violent exercises are also Causes, inasmuch as they put the Blood into an over high Ferment, whereupon it is carried impetuously through the Arteries and Veins, and therefore may easily run out of its Vessels, espe-

S cially

cially if it be suddenly stopt in its Motion; for then the Vessels are too far distended, and therefore are easily burst. Thus we see, That by drinking cold Drink, while the the Body is hot, the Blood is apt to coagulate and stop in its Motion. All things may be Causes, which are apt to coagulate the Blood, especially in these small Vessels which are found in the intercostal Muscles, and the *Pleura* and *pneumonick* Vessels: for a little grumous Blood is able to stop these small Vessels; which when done, stagnation and distension follow, then a breach and inflammation. This is confirmed by our own experience in opening one that died of a Pleurisy, in whom we found above two Ounces of Blood in the Membrane *Pleura*, preternaturally thick and grumous. See *Bonnet's practical Anatomy*, *Etmuller*, and other experienced Persons, who maintain what we say, by their Authority and Reason.

S. II. *Prognostick.*

HAVING considered the Etiology, we will now go to the Prognostick. That of *Hippocrates* is most certainly true, *Whoever, being sick of a Pleurisy, are not purged by Spit- tle in fourteen days, they turn to sup- puration*; and suppuration is nothing else, but the turning of an inflamed Tumor into a purulent Ulcer, when the Acid, upon the deservescence of the Matter, begins to abound, the volatil and spirituous Particles flying away, and heterogeneous ones coming in their stead. A Pleurisy is generally held to be destructive to old Men, Women, and such as have had it twice or thrice before. A Pleurisy in which nothing, or but little is raised by spitting, or when

spitting quite ceases, while the Pain remains, is dangerous. Spit- tle all bloody or all yellow is an ill sign, and so is black; for it signifies a total corruption, being by reason of the Acid, of a corrosive Nature, and threatening a Gangrene. For all Spit- tle, the more exact it has the Humors mixt, and not distin- guishable one from another, the worse it is, by the common con- sent of Authors. A small, frequent, hard and serratil Pulse signifies death; for no pleuritick Person who had such a Pulse, was ever cured, when all things else were bad; otherwise we must not despair, as I have learned by frequent observation. Green Spit- tle also is bad, and so a viscid, fro- thy, and a little round Spit- tle, are of the same sort. But the strength must always be considered, and compared with the Disease. They that complain of a great oppression and straitness in this Disease are in danger: so are they, whose external are cold, and their internal hot; and when noble Medicines will do no good, it is dangerous. Malignant Pleurisies are generally mortal. See *Ephem. German. An. 1. obs. 15*. When a Cough ceases, and a Hiccough comes, it portends ill, and so does a looseness and bleeding at the Nose. But otherwise a Pleu- risie terminates, in a short time, like other acute Diseases, often on the seventh, sometimes on the ele- venth or fourteenth day. If it ex- ceed this time it turns to an *empy- ma*, a Consumption, or foul Ulcer under the Arm, as I may self ob- served. And they that are not cur- ed in forty days, grow Consump- tive. Sometimes the peccant Mat- ter is received into the Vessels, and as it came by Fluxion, so it is a gain.

gain diffused into the remaining Mass of Blood, and ends sometimes in the Hemorrhoids, sometimes in the *Menses*, sometimes in a purulent Flux of the Belly, and sometimes in Urine; concerning which there is extant a most elegant Epistle of *Baubin*, published with *Wedelius* his *Scholium* in the German *ephemerides*, ann. 3. We have observed the like terminations. The *metastasis* of the Blood is most frequent, when it turns to *Pus*, and is voided by expectoration. There are hopes, if Spittle be raised in the beginning, and if it be of a laudable colour and consistence. If the Pain, Cough, and difficulty of Breathing abate, if the Pulse grow less hard, and every day greater, they are good signs. But since *Hippocrates*, *Sennertus* and others are copious on this Subject, I shall forbear to say more, lest I might be twitted with that of *Juvenal*;

*Nam quacunq; sedens modo legerat,
hac eadem stans
Proferet, atque eadem cantabit ver-
sibus istem:
Occidit miseros crumbe repetita ma-
gistros.*

§. 12. Dietetick Cure.

THESE things considered, we will proceed to the Cure, and first to the Dietetick. The Air therefore must be temperate, or rather enclining to heat. A cold Air is held very bad in this case: because it sends its acid pointed Particles through the Pores of the Body, which then associating themselves to the Blood coagulate it: for when the Air is entered, it shuts the Pores, stops the Circulation of the Blood, and obstructs the lesser

Blood-Vessels, whereupon the volatile Spirits fly into Air, and the rest that remain fight one with another, coagulate and turn to *Pus*. Whence it follows, That a North and East Air is very hurtful, because such an Air is a sworn enemy to the Membranes, and to all nervous Parts, according to that of *Hippocrates*, *Cold things are enemies to the Breast*. Sudden alterations of the Air, either from excessive heat to cold, or from violent cold to heat, may easily cause a Pleurisy. If the Air be infected, epidemical Pleurisy proceeds from thence; whence it further follows, That the contagion has no fixt place in the Body. The strange force of this Infection is admirably set out by *Sylvius* in *oratione de Aere epidemico*, by *Hogelandus*, *Eitmullerus* in *disputatione de parvis mag. morb. principiis*, *Ten Rhyn* de *vet. med.* and others.

The Meat must be light and thin, such as Chicken-broth, Barly-cream, and Oatmeal gruel. On the contrary, all salt, sharp, sowre, bitter and aromatised things must be forbidden. All Pulse is hurtful; and lentils are held by *Galen* and *Rhasis* to be specifically bad. Cold Meats also, are very bad, such as Mushromes, Cucumbers, Melons. Salads also and all Garden-fare are bad. For *Polybius* tells, how *Agron* King of Hungary, seeding too freely on such Cates, fell into a Pleurisy, which in a few days carried him off, l. 2. hist. The Drink must be some convenient Decoction made of root of Liquorice, *scorzonera*, Flowers of Poppy, and other pectoral things; or for the rustick Tribe, of Horse-dung, according to *Helmont's* Experiment, because much alkali, which is good to imbibe the pleuritick Acid, is contained in

the Dung: Or an emulsion made of Almonds and the cold Seeds with water of Cichory, Borrage and red Poppy, &c. may be drunk for some days to allay the heat in the Breast. No Wine must be drunk, till the heat abate. *Hippocrates* and *Celsus* do allow a little of small White Wine; but upon my own experience it is best to let it alone: for by humoring our Patients we injure both them and our selves. *Brassavolus* comment. in l. 1. *Hipp. de ratione. viii. acut. l. 22.* says, That Wine in a Pleurisy is present Poyson, especially in the beginning. So cold drink is hurtful. *Hildanus* has an instance of a Pleurisy in both Sides, which came by drinking cold drink, cent. 4. obs. 25. *Helmont* is of the same opinion.

Rest both of Body and Mind is good here: on the contrary too much Motion, because it moves the Blood too much, must be forborn. Swimming is very hurtful, concerning which see *Curtius* his History of *Alexander the Great*, c. 5.

Immoderate waking is as bad, partly by detaining the Humors, that should be dissipated (as *Hippocrates* s. 7. aph. 71. says) and partly by dissipating the Humors, that should be detained.

The Passions of the mind must be moderate, Anger must be forborn; for it is the greatest plague of a Man's Life, and is very dangerous to the Heart, as it does the highest violence to the mass of Blood. Grief, Care, and Fear, have all of them, as experience testifies, been the cause of this Disease.

As to the excreta and retenta,

they must be correspondent to Nature or Art: for such as are naturally loose in their Belly, are less subject to a Pleurisy, and on the contrary. Therefore a stool must be had every day, according to *Hippocrates* lib. de Aere, Aq. and Loc. But when there is a Pleurisy, it is better to be Costive than Loose; since, in *Hippocrates*, his judgment, as in all Inflammations, so in a Pleurisy (which is of that nature) purging is hurtful. The Retention of usual evacuations, as of the Hæmorrhoids, *Menses*, *Lobchia*, and *Fistulae* is hurtful. Falling from on high, and carrying too heavy a burden, may either of them occasion it.

§. 13. Pharmaceutick Cure.

WE will now take a view of the Pharmaceutick cure, and first see, what method the Patients used in a Pleurisy. And they first of all, lest the Disease should get ground, give a Clyster, and when that is come away, they let Blood in the Basilick Vein of the Arm on that side the pain is, till the Blood change; then they clap Cupping-glasses to the *Hypochondria*, and by Ligatures, Frictions, and Suppositories, they endeavour to divert the matter from running to the part affected. And if a viscid and bilious matter oppress the Body, or if it be not already got into the part affected, they evacuate it (otherwise they forbear) by some gentle Purge. Their Evacuators are *Cassia*, *Diaprunum laxativum*, *Manna*, *Agarick*, and *Rhubarb*, mixt and boyl

ed

ed with other Pectorals. Then they make the matter, which ouzes into the Lungs, or is already lodged there, obedient by things familiar to the Breast, and which promote spittle, Syrup of Jujubs, Liquorice, Violets, Maiden-hair, Hyslop, Sugar Candy, *Diapenidium*, *Species Diarreos*, *Diatragacanthum Frigidum*, *Loboch de pino*, *Loboch sanum* & *expertum*, a decoction of Figs, Barly, Liquorice, sweet Almonds, &c. Here is a Receipt out of their Dispensatory;

Take of *species diatragacanthi frigidi* one ounce, Penidies, Sugar Candy each two drachms, Syrup of Violets, Jujubs each half an Ounce. Make a *Loboch*.

They highly commend the following Decoction for raising of spittle.

Take of scraped Liquorice one Ounce, Raisins, Figs, Jujubs, *Stibsten*, sweet Prunes each No 20, four cold Seeds, Seeds of Mallow, Marsh-mallow each two Drachms, Flowers of Chamomil, Violets each one pugil, whole Barly one pugil and an half. Make a Decoction in Barly-water.

To this end they prescribe Fomentations of a Decoction of Mallows, Marsh-mallows, Fenugreek, Linseed, and Figs, which they put in a Bladder, and apply them hot to the pained Side. Or instead of these they apply a Cataplasm, made of the foresaid *Species*, and other Pectorals, or an Ointment of Grease, of Duck, Goose, Badger, Hen, Oyl of sweet Al-

monds and white Lilies. They foment the part affected with a Decoction of Hyslop, and anoint the whole Breast with oyl of Lilies, Chamomil, and powder of *Iris*, and Saffron. They likewise commend the Broth of an old Capon boyled with Hyslop and Maiden-hair. Then they give healing things, and they prefer Goats milk above all others. In a costard Pleurisy they order such things as gently resolve;

Take of flowers of Chamomil, Melilot, Leaves of Rue, Dill, Violet, Mallow each one handful. Cut them and put them in a bag, boyl it in milk and apply it to the pained side; and let it be often repeated.

They also use a bag of Salt, Millet, Bran, Aniseed, and Caraways, if the matter be windy. In a Peripneumony they use the same Cure as in a Pleurisy; only they apply Cupping-Glasses to the Shoulder blades. But if it turn to an *Empyema* or a Consumption, it must be otherwise cured, of which you may see more in their proper place.

§. 14.

THE Paracelsists prescribe various Medicines in this Disease, which are said by their internal signature to be proper for a Pleurisy; namely, Nitre, Tartar, Sulphur, Antimony, Sal Ammoniac, &c. Outwardly they apply the Jaw of a Pike, Larkspur, and Flowers of dry Dock. They commend the following Composition;

Take of the three Salts each one Ounce, both Tarrars each half an Ounce, Mummy one Drachm, water of Baum, Dodder of Thyme, Eugloss each what is sufficient. Delfill them in an Alembick. The dose from one scruple to four.

Paracelsus himself cured several Pleuriticks by Bleeding in the inner Vein of the Arm on the same side, and then giving spirit of Tartar in drink. He affirms, he has cured many by *Turbith* or *Diaphoretick Mercury*. He condemns and despises Purges and Clysters, but not Vomits: however great care must be had in giving them, and they must be gentle. For I lately gave a strong Souldier a Vomit in a Pleurisy, which had like to have done much mischief. For he vomited abundance of Blood; and unless I had prevented it by Cordial Opiates, undoubtedly he had died of it. Therefore we should be cautious.

§. 15.

Helmont in this case blames an Acid; and proves it, because in a Pleurisy the Urine and Blood thicken as they come out, which is an effect of Acidity. He rejects Bleeding as an accursed Remedy; because a Pleurisy cured by Bleeding often leaves a Consumption behind it: And they that use Bleeding much, do often fall into this Disease. The acidity is easily cured by Diaphoretick Medicines. And this acid does sometimes damage the Spleen: for he remembers how, after he was cured of a Pleurisy, he felt a pain and swelling in his Spleen, which he

cured by drinking Crabs Eyes boyled in Wine; and therefore he questions not, but all acids are proper. Yet he first took some Stag's Pizzle, and drank a Drachm of Goats Blood, upon which his Spitting of Blood and the Disease abated. His never failing Remedies are these following; Powder of Stag's or Bull's Pizzle, Juice of wild Cichory, flowers of red Poppy, Horse dung, Boar's tooth, Daisy; but he prefers Goats Blood before all; yet it must be drawn thus; the Goat must hang by his Feet, and his hind Feet must be tied to his Horns, then his Scroes must be Cut, and the Blood must be saved. Here is a Receipt;

Take of Goat's Blood drawn *Helmont's* way one Scruple, Powder of Stag's Pizzle one Scruple, water of red Poppy one Ounce and an Half. Mix them. Make a Draught. Or,

Take of Flowers of red Poppy, Daisy, leaves of wild Cichory each one Handful, Crabs Eyes, Boar's Tooth each half an Ounce, Horse Dung one Ounce and an Half. Boyl them in a sufficient quantity of Barly-water. Add to the colature syrup of red Poppy, what is sufficient. Mix them. Let the Patient take a draught now and then.

He also gives a Drachm of red Poppy flowers in Broth, and repeats it several times.

§. 16.

§. 16.

Millie thinks the stagnation of the Blood in the Lungs must be quickly removed: To which purpose (whatever some may say to the contrary) he extols Bleeding as the chief Remedy both in a Pleurisy, and Peripneumony, as good for removing the stoppage of the Blood, wherever it is. He gives this reason, because the Blood-vessels being much emptied thereby, it resorbs the peccant matter, and carries it another way. But he will have the strength always considered; nor does he admit of any choice of Veins, whether on the same or on the contrary side. If the Patient cannot bear Bleeding, he advises the Cupping and Scarifying of the pained place. He rejects strong Purges and stibiate Vomits. He highly commends Clysters, and Lenitives, if the Fever be not violent. In the heat of the Blood he prescribes several Juleps and Decoctions. To destroy the toughness and acidity of the Blood, he magnifies Precipitants, such as Crabs Eyes, Boar's Tooth, Carp stone, Bone of a Stag's Heart, Stag's Pizzle in Powder, Goat's Blood, *Lapis prunella*, Salt of Urine, Harts-Horn, Volatil Spirit of Sal Ammoniac, Tartar, *mixture simplex*, and such other things. Here are some of the Author's own Receipts;

Take of water of red Poppy Flowers three Ounces, Fenil one Ounce and an Half, *Lapis Prunella*, Crabs Eyes each half a Scruple, Volatil Spirit of Sal Ammoniac one Scruple, Syrup

of red Poppy one Ounce. Make a mixture.

To destroy the clamminess and acidity of the Blood;

Take of water of *Cardus benedictus*, Cichory each half a Pound, fresh Horse dung two Ounces. Let the liquor be filtered. Add of Syrup of red Poppy one Ounce, Volatil Spirit of Sal Ammoniac half a Drachm. Mix it, and give five Spoonfuls.

Moreover he commends other Cordial and Anodyne Medicines, which refresh the animal Spirits, and hinder the kindling of the Blood, which blazes too much. Which intentions he answers by Pearl Juleps. He gives you this Receipt;

Take of pearl-water of the Shops, red Poppy each three Ounces, *laudanum tartarizatum* twenty Drops, Spirit of Goat's blood half a Scruple Syrup of Violets six Drachms. Mix them for two times taking.

Externally also he advises Anodynes in form of aliniment, Cataplasm or Plaster; such as Oyntment of Marsh-mallows, Oyl of Sweet Almonds, *Emplastrum de Mucilaginis, de opio*, Oyl of Poppy, Marsh-Mallows, Henbane, &c.

§. 17.

AS for the Cure of this Disease, according to the *Ægyptian hypothesis*, it consists, 1. In removing Obstructions. 2. In restoring

the Motion of the Blood. 3. In Correction of the extravasated and in some measure corrupt Blood.

4. In Maturation. 5. In opening the ripened Blood. 6. In cleansing the Apostem, when opened. 7. In healing of it up. Things that remove Obstruction of the Vessels, do also quicken the Motion of the stagnating Blood, and they are chiefly volatil Salts of Wine, Harts-horn, Soot, and volatil Salt of Goat's blood, which do not only dissolve and make fluid what is coagulated, cause Sweat and so expel the peccant Matter; but correct the Blood poured into the *Pleura* when it is devoid of Spirit and turned sower: he praises this mixture following;

Take of Water of Parsley, Hyssop, Fenil each one Ounce, Treacle-water half an Ounce, Spirit of Sal Ammoniack half a Drachm, or volatil Salt of Harts-horn six Grains, *laudanum opiatum* four Grains, Syrup of red Poppy one Ounce. Mix them. Let the Patient take a Spoonful or two of this Mixture now and then, that so the Obstruction may be removed.

I have seen *Sylvius* cure several Pleuriticks in the Hospital at *Leiden* with this Medicine, without letting Blood. If the Obstruction be radicared, it is then difficult to cure; but I have heard him with his own mouth highly commend *Helmont's* Medicine, which is Crabs eyes boyled in Wine, and drunk: Or,

Take of Crabs eyes, a Pike's mandible, Bone of a Stag's heart each half a Drachm, diaphoretick An-

timony two Scruples. Mix them. Make a Powder.

It is an excellent Remedy, to imbibe an Acid: for grumous Blood, coagulated by an Acid, may be dissolved by such sort of Medicines. Among Externals he commends divers Unguents made of lenient Fats and Oyls, Fomentations made of aromack and emollient Plants, and Bags to be applied alternately, as there shall be occasion. For he holds, that the virtue of these things can penetrate the Pores of the Skin, and so remove Obstructions. The Motion of the Blood is restored partly by Sudorificks, especially by the foresaid volatil Salts, partly by Bleeding in the beginning of the Disease which according to the Patients Disposition and Strength; may be repeated several times; for at every Bleeding the Blood is moved. At length if the Matter tend to suppuration (which yet by all means should be hindered) and from that to an abscess, then Ripeners, Emollients, Mundificants, and Healers must be used; for which purpose he commends five drops of *balsamus sulphuris anisatus* or *terebinthinatus*. For it not only cleanses and heals the Ulcer, but by its oiliness and volatil Salt expels and enervates the sharp Acid, which is the cause of the Pain.

§. 18.

The *Cartesians* commend Bleeding and the foresaid Medicines, both inward and outward.

§. 19.

WE have done with other Mens Remedies, now we will go to our own. When a Pleurisy is caused by a coagulating Acid, and by the Motion of the Blood being hindered, we presently go to Blood-letting. But if there be any Malignity we omit it, and instead thereof we cup and scarify or apply Leeches in several places, because these may be born, without much loss of Strength. All that remains to be done, is to dissolve the Blood, coagulated by an inept Acid. And the principal things that do this, are, such as consist of an *Alkali*, as well fixt as volatil. For Volatils do not only quickly imbibe an acid; but they are also Alexipharmack and Diaphoretick, such as the Urinous Spirit of Sal Ammoniack, the volatil of Tartar, *Tinctura bezoartica* mixt with *essentia anodyna Wedelii*. Towards the Declension they may be mixt with more fixt Specificks, namely, with Diaphoretick Antimony, Boar's Tooth, Harts-horn Philosophically prepared, Crabs Eyes, mandible of a Pike, which when the effervescence of the Blood is excessive, are more proper than Volatils. This is an excellent Antipleurietick powder of *Ludovicus* for the same purpose;

Take of the mandible of a Pike fish in powder two parts, Goat's Blood, yellow Sulphur each one Part. Mix them: Make a powder, to be given twice or thrice a day in red Poppy water,

If the Pleurisy be fierce and malignant, I dare recommend this following Antipleurietick, Bezoartick Tincture of mine, which I lately experienced much in the Epidemick Pleurisy.

Take of the powder of volatil and fixt Salt of Vipers each half a Drachm, Peach Stone two Drachms, Bark of the Root of Cinnamon, Flowers of red Poppy each three Drachms, Root of Elecampane, *lignum colubrinum* each half an Ounce, Goats blood three Drachms, Castor one Drachm, Spirit of Wine camphorate, and impregnated with Crabs Eyes eight Drachms. Digest them, then let them be thrice separated according to Art, and let it be tinged to redness with red Poppy flowers.

In defect hereof *Tinctura Bezoartica Michaelis* or *simplex* may be given. But Expectorants must always be given between whiles, or must be mixt with them: for instance;

Take of water of *Carduus benedictus*, *Lobrich Samum*, red Poppy each one Ounce and an half, *Tinctura Bezoartica* either *nostra*, *Michaelis*, or *simplex* one scruple, Volatil salt of Goats blood seven grains, *Laudanum opiatum* one grain, Syrup of red Poppy six drachms.

This Mixture must be repeated every four hours, especially when there is Malignity. In the meantime let him drink a Decoction of Stag's pizzle. The following Emollients are good to temper the acid which inflames the Lungs or Pleurisy.

Take

Take of Linseed Oyl one Ounce and an half, *Species diarsen* one drachm. Mix them for once taking.

Or this of a noble *Helvetian* of *Friburg*, communicated by *Juncken* in his excellent Treatise.

Take of water of *Carduus benedictus*, *Maria* each three Ounces, Oyl Olive one Spoonful, nine Medlar Kernels powdered. Mix them. Make a draught for once. Or,

Take of water of *Loboch Sanum*, white Lilies, red Poppy each one Ounce, extract of red Poppy half a Drachm, Saffron four Grains, Sugar Candy what is sufficient. Mix them. Or,

Take of *Sperma Ceti* one Drachm, Syrup of Violets, Marsh-Mallow each one Ounce. Make a *Linctus*.

When a Pleurisy comes to Suppuration, this following will be proper;

Take of Syrup of Tobacco two Ounces, water of Scabious, Juice of Speedwel, Ground-Ivy each one Ounce. Mix them for several times taking.

At length we conclude the Cure with Crabs Eyes, Coral, and other fixt *Alkalies* mixt with Opiates, sometimes without them. We shall give you some Receipts, with which, through God's Blessing, we cured several;

Take of powder of Boar's Tooth, Crabs Eyes, Goat's Blood, *crystallum Minerale*, Flowers of red

Poppy each half an Ounce. Mix them for two Doses.

Or, where there is a sufficient quantity of *Serum*, this following;

Take of Crabs Eyes, Mandible of a Pike Fish each one Scruple, Native Cinnabar six Grains, *Laudanum Opiatum* one Grain, red Coral six Grains. Mix them. Make a Powder for once; repeat it often.

I have cured several Pleuriticks by thrice giving a Drachm of the Interstice of the inside of a Walnut dried and powdered, in red Poppy water; but then I bled first. I have also found Snail-Shells effectual. Or,

Take of Crabs Eyes, Goat's Blood each one Scruple, yellow Sulphur, *Antimonium Diaphoreticum*, Root of Burdock powdered each twelve Grains. Mix them. Make a powder for one Dose, to be given in red Poppy water.

But if in this Disease the Blood grow hot for want of *Serum*, the following Emulsion will do good.

Take of Seeds of Melon, *Carduus Maria* each two Drachms, sweet Almonds half an Ounce, water of red Poppy, Burdock, *Scorzonera* each what is sufficient. Add of the Mandible of a Pike, Harts-Horn Philosophically prepared, *Antimonium Diaphoreticum* each half a Scruple, a little Sugar Candy. Mix them. Make an Emulsion.

About

About Fifty drops of Tincture of red Poppy may be given mixt with Antipleuritic Spirit. For such as are Thirsty, if there be no Vomiting nor Looseness, we use *Clyffus Mineralis*, Spirit of Salt or Spirit of Nitre in a proper Decoction. In a Phlegmatick Pleurisy I have given Spirit of Sal Ammoniack amstated, with good Success. But if the coagulating Acid come from a Scorbutick disposition, *Cardiucus* his Antipleuritic Medicine will be proper, to wit, Juice of Water Cresses new drawn may be given mixt with Wine. If the Sulphureous Particles be coagulated and mixt with a thick and rough *Mucus*, it must be incided with *Oxymel* of Squills or Simple. When the Blood is turned to Pus, or a foul Ulcer is made, and great store of purulent Matter is raised, then you may with good Success give *Balsamus Sulphuris amstatus*, or *terebinthinatus*, or Balsam of Peru. When Pain arises from a conflict between acid and alkaline particles, which contract the Fibres, we must fly to Opimates; in which case I have given *Essentia anodyna Wedelii* with good Success. Purgatives must not be given but in the end of the Disease. And Vomits must not be given at all. We approve of divers outward Applications, Unguents, Oyls, Cataplasms, Fomentations, &c. Here are Receipts;

Take of Unguentum Antipleuriticon Mysichii, *Dialthae Compositum* each one Ounce, *Crocus Martis* one Scruple. Mix them, Or,

Take of Oyl of oblong Gourds

one Ounce, Scorpions half an Ounce, Chamomil, white Lilies each two Drachms, Saffron one Scruple. Mix them. Or,

Take of fat of the Mountain Mouffe three Drachms, Oyl of Sweet Almonds, white Lilies, Chamomil, Mullein, Poppy by expression each one Drachm and an half, Henbane one Scruple, the distilled Oyl of Dill, Chamomil each six drops. Mix them. Or,

Take of Root of Marsh Mallows one Ounce, white Lily half an Ounce, leaves of Mallow, Marsh-mallow. Pellitory of the Wall each half a handful, Flowers of Mullein, Melilot, Violets, Chamomil each two Pugils, Linseed, Fenugreek each one Drachm. Powder them and boyl them in Milk for a Cataplasm. Or you may put the Powders in a bag, boyl them, and apply them, for it is excellent.

Some boyl ten Onions in Milk to the consistence of a Pulver, and apply them to the pained Side. Digby Commends a hot Loaf, as it comes out of the Oven, cut in two with some Venice Treacle mixt with it, and applied hot to the Side affected. I have eased several Pleurisies with the following Fomentation;

Take of Millet two handfuls, Flowers of Chamomil, Melilot each half an handful, Linseed one Ounce and an half, Crude Salt two Ounces. Mix them in a Frying pan, and sow them in a bag, for outward application.

CHAP.

C H A P. IV.

Of a Consumption.

§. I.

THe next thing that offers it self to our consideration is a Consumption, a sad Object to the beholders, being in all appearance, but a walking Ghost;

Ossa tegit macies, nec juvat ora cibis.

Names.

This Disease is called the Phthisick, Consumption, Wasting of the Lungs, Extenuation of the Body, Consumption of the whole Body, Macilency, an Ulcer or Exulceration of the Lungs.

Definition.

And it is usually delineated to be *A Consumption of the whole Body, with a lingering Fever, and a purulent Cough, caused by sharp Particles, Tubercles or Stones that exulcerate*

and corrode the spongy substance of the Lungs. For all People in this Disease do waste and consume, and it shows it self at first in a Cough without Spitting, but in process of time by continual Spitting.

Kinds.

Yet there are other sorts of Consumptions; as a spurious Consumption, when part of the Body or the whole wastes without an Ulcer of the Lungs, when only the Blood is sharp, and such are usually ascribed to some Indisposition of the Head, Stomach, Liver or Spleen; hungry Worms also, as they are vulgarly called, make Children very lean, and there are several other sorts of Consumptions, which for brevities sake I now pass over, but I shall take notice of them in their proper place.

§. 2. Part affected.

CONCERNING the Part affected Authors are not agreed. *Sylvius* blames the Glands of the Lungs; *Barbette*, the Stomach and Glands of the Mesentery; but that here, that is, in a confirm'd Consumption, the Lungs are affected, I think every Man will allow: for my own part I dare affirm it: for I have opened above eighteen dead Bodies, and found the Lungs ulcerated in them all but one, who also had an Ulcer in the Membrane that encloses the Ribs. Consult *Bonetus his Practical Anatomy*. Therefore I am of Opinion, That primarily the Lungs, which ventilate the Blood, are affected; secondarily, the Blood and Heart, as appears from the Fever and wasting of the whole Body, which from hence is made manifest, if we consider the Symptoms, namely difficulty of Breathing, a very troublesome Cough, and Spitting of purulent Phlegm: for the Lungs are a Body made up of mere Vesicles, and therefore easily receptive of such Ulcers.

§. 3. Diagnostiks.

AT first this Disease is very difficult to be discovered; yet what Signs may be observed of a Consumption approaching, *Hippocrates lib. 1. de morb.* does elegantly describe, And from these causes, indeed (says he) Pus is gathered in the Lungs; if he that is bled with an Inflammation of the Lungs purge not on the critical Days, but the Spittle and Phlegm remain in the Lungs, he suppurates; who, if he be presently taken into cure, for the most part e-

scapes, but if he be neglected, then he is corrupted by the putrefying of that which remains within, after that he is ulcerated and gathers Pus, and never after gathers any nourishment worth speaking of; nor does he raise any thing by Spittle, but is suffocated, and continually oppressed with greater difficulty of Breathing, and when he does breath, he rattles, and then he wheezes in the upper part of his Breast, and at length, when his Passages are stop'd by his Spittle, he dies. Now the Signs, which show that a Consumption is coming, must be very diligently observed, that, if possible, so pernicious a Disease may be prevented, and according to *Hippocrates* they are, a lingering Defluxion, a tickling Cough, Spittle more bitter and sharp than usual, a small Heat, and among the rest, we may reckon a consumptive Disposition, which *Hippocrates l. 1. Epid. c. 1.* does more fully describe, namely, if the Chest be narrow, the Breast strait, the shoulder-blades sticking out, and if the Neck be long; also an hereditary Disposition gives no small suspicion of the imminent danger of this mischief: for instance, If the Parents of the Party died of a Consumption: for usually one troubled with the Stone, begets one troubled with the Stone, a gouty Person, one troubled with the Gout; an Epileptick, one troubled with the Epilepsy, and why not a consumptive Person, one troubled with a Consumption? For healthy People breed healthy Seed, and diseased People a diseased Seed, which Disposition is also transferred to the Children by morbid *Ida's*, or by an exotick Ferment, which in time grows ripe, and shows the hereditary Defects, as I could make out
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by many Instances, That Children are altogether as much the inheritors of their Parents Diseases, as of their Estates, which thing deters many from marrying such Persons. But if one have spit Blood, and continue so to do, if he be troubled with a violent Cough, if he breath hard, if he raise a greenish, yellow, ash-coloured, purulent or blackish Spittle, if when spit into the fire, it send out a stinking smell, or sink in Water, by reason of its stickiness and weight (though sometimes all the time of the Disease, there appear nothing of Blood in the Spittle) all these give shrewd Signs of a Consumption, especially if the Fever grow higher about two hours after Meal. There is the same danger, when we find white, chalky Stones voided, as the *German Ephemerides* testifies. However we must take notice, That these Signs do not hold infallibly true. The Signs of a confirm'd Consumption, are, a notable Emaciation of the Body (for the sharp Blood of consumptive Persons nourishes not, but rather corrodes) frequent Coughing, Expectoration sometimes easie, sometimes difficult, and that oftentimes bloody, purulent, sanious, fetid, and of several Colours, a dull pain about the Shoulder-blades, and Breast, Wind in the Stomach, the Appetite sometimes decayed, sometimes depraved, sometimes too great (or canine) sometimes excessive thirst, and sometimes the swelling of the Feet is grievous, by reason of the Humors refluating in the Vessels of the Feet, and at length breaking the Lymphaticks, the Belly is sometimes too cosive, sometimes too loose, excessive Sweats which smell sowre do emaciate the Patient, es-

pecially in the night: for according to the Opinion of the *English*, the nutritious Juice cannot be assimilated, though it be carried to the Parts for their nourishment, but because of the destruction of the Pores it slips away, and runs out at the Habit of the Body, hence are these colliquative Sweats in hectic Persons; there are also in this case frequent swoonings, *deliriums*, slow animal Motion, a frequent and weak Pulse, a lingering Fever some few hours, as we said before, after Meal, with flushing in the Face, showing it self with a quicker, and more intense heat towards Evening; for in a Consumption the Blood contracts Acrimony, because it continually passes through the purulent Lungs; because when new Chyle comes to the Heart, it cannot mix with that corrupt Blood, although the Chyle be duly elaborated in the Stomach and Intestines, whence proceeds an unequal mixture, and a mischievous contrariety, by reason namely of an irregular mixture and figure of the Parts; whence it cannot otherwise be, but that after Meal the Fever must be increased. Besides, sometimes the Legs swell and are in pain, because of the translation of the purulent Matter; in the Stools and Urine, sometimes there appear purulent, and fatty or oily excretions; in a consummate Consumption there is a looseness, the Pores are obstructed, then all the moisture is voided, in this case also the Hair falls off, because the Pores of the Skin are inverted by sharp Humors, and the Roots of the Hairs are destroyed; in some People also abundance of Lice are bred, the Nails grow crooked, the Patients look with an Hippocratical

cal face, that is, their Nose is sharp, Eyes hollow, Temples sunk, tips of their Ears cold and contracted, the Skin about their Forehead and Palms of their Hands hard and dry, the colour of their Face pale, livid, black, &c. One shall seldom meet with all these Signs we have mentioned, in one single Patient, in some more appear, in others fewer. These make up a pathognomick Sign of a Consumption, a frequent Cough, difficult Breathing, emaciation of the Blood, a lingering Fever, and purulent Spittle, yet the Observations of some famous Physicians testify, That many have died of a Consumption, without the last: But whereas some Physicians will have a true Consumption to be known by the sinking of purulent Spittle put into warm Water, and by the sinking of it, when spir upon live Coals, they are much mistaken, since viscid Phlegm, when it has been of any continuance, (as I have often observed in splenetick and scorbutick Persons) may sink, and by reason of its weight sink to the Bottom. Fat comes in the Urine, because the Acrimony of the *Pus* fetches off many fat and oleaginous Particles with the other Particles of the solid Parts, which oleaginous Particles, when they are voided with Urine, by reason of their smoothness, cannot mix with it, and therefore swim at the top. When the surface of the Patient's Body is touched with the Hand, a sharp Heat is perceived, which arises from abundance of volatil Salt, exhaling by the Pores of the Body.

§. 4. Causes.

NOW we enter the spacious field of Causes, and according to our Method we gather the Flowers of divers Authors into a Posy. According to the Opinion of the old Galenists, the proximate and immediate Cause is an Ulcer, the preceding Cause whereof is a sharp, corroding Humor, which, as a Catarrh, falls from the Brain upon the Lungs, and then exulcerates them; they say, this Humor is sharp or salt Phlegm, which causes a fierce Catarrh, that corrodes the Lungs, they being excessive soft, tender, and very apt to corrupt, and at length breeds a putrid Ulcer. According to these Men therefore a Consumption comes from a Catarrh, caused by a cold Air, or by immoderate drinking of strong Wine, and also of very cold drink, if drunk in great quantity, especially upon the Body's being violently heated before: For any sharp Humor or Vapour, which is but able to corrode and wound the tender substance of the Lungs, or their Coats, may easily produce this Disease. Also an Apostem of the Lungs, when it breaks, and the purulent Matter falls on the Lungs, and stagnating a long while in them acquires Acrimony, must of necessity cause an Ulcer. So also when a Pleurisy or Peripneumony end in a purulence, and the *Pus*, as we said in the Chapter foregoing, is not raised within 40 days, from the first day of its appearing, then also this deplorable Disease is caused. And a continued chronical Cough may, by its violent Motion, break the Membranes of the Lungs, for too much Motion

Motion hurts. And they prove it hence, in that Singers, Preachers, and such as live heavy things, are subject to such Diseases, and the Ancients do not deny, but that this Disease has sometimes its rise from Vomiting, or painful Child-bearing, through too violent Motion, and breaking of the Veins or Arteries ensuing thereon.

§. 5.

THese things premised from the old Oracle of Medicine, now I will see what the Opinion of the more Modern Chymists is, concerning this Disease, which appears not to differ much from the former: for theirs is, that it is an Ulcer, and the Disease saline by right of predominance; for all erosion comes from Salt alone. Now as long as this balsamick Salt, tempered with the viscous sweetness of the Sulphur, and the Nectarean irrigation of the Mercury, observes the proportional Laws of Confederation, so long such Unity and Vigor is preserved; but when upon its effervescence and turgescence it separates from the other two, and endeavors to set up for it self apart, then it raises a War, and rests not, till it sit down in the Lungs and fix there. If therefore the mechanick Spirits, being weak either by Birth or Disease, are not able to separate the mucilaginous Impurities that stick close to the Food, nor to expel the superfluous dissolved Salt by Sweat, Urine and insensible Transpiration, then comes this Disease: For the Salt of the thing uniting with the Salt of Nature breeds Tartar, upon the breeding of which, Obstruction follows, and the Balsam is al-

tered, whereby Passage for the Aliments and free Ventilation for the Spirit of Life is stoppt; whereupon follows Inflammation, and because then the Salt is dissolved, Putrefaction; from Putrefaction, because the corrosive Salts being set at liberty are produced into Aft, Erosion and Exulceration. And the summ of the whole is, that the Chymists do blame Tartar, either salt, or some other way vicious, which corrodes the Vesicles of the Lungs.

§. 6.

Helmont ascribes the cause of this Disease to a singular and strange Ferment, which causes an error in the vegetative Faculty, so that Phlegm and an obstructing Mucilage is bred of good food, because the *Archeus* is very often impeded in correcting the acid Blood; the injuries of the Air also do the same, as it is able to invade the tender substance of the Lungs, to corrupt and alter the Ferment, and incline the Pulmonary *Archeus* to a consumptive Disposition. For when the Blood has contracted Acrimony, and is inept for Nutrition of the Parts, upon its coming into the Vessels of the Lungs, it opens them, whence proceeds spitting of Blood, often attended with purulent Spittle, and then a Consumption: Because the *Archeus* upon this putrid Afflux, being enraged by the sharp and corrupt Blood, casts it out; which same Blood may easily be corrupted by Meats that are salt, sharp and dried in the Smoak. But he obstinately denies, That Spittle can come from the Head to the Lungs, or that any thing can fall from the Brain upon

upon the Lungs, but that it rather proceeds from the proper fault of the Lungs themselves.

§. 7.

Ullis (who on good grounds reckons this Disease among those of the Breast, for other Diseases of the Breast turn into it) judges that the cause of this Disease lyes in the Breast, and proceeds from solution of Unity in the Lungs, and from an Ulcer thereupon: wherefore to distinguish it from a Consumption, which chiefly proceeds from a corrupt and highly polluted Blood, that has thereby lost its nutritive virtue, he calls this Disease a Consumption of the Lungs. Now an Ulcer of the Lungs, according to him, arises from excess of Humors discharged by the Blood upon the Lungs, which get into the tracheal and pulmonary Vesicles, fill and distend them; for when the Vessels are broke, there is an evasation of that peccant and putrid Humor, whereby at length this sordid Ulcer is bred. And he holds, That the Lungs contract this consumptive Infection from a sower Blood, which has lost its consistence, and pours its serosities both out of the pneumonick and tracheal Arteries into the substance of the Lungs, and sometimes from the fault of the nervous Juice, and by several Experiments and Reasons he shows, how a Consumption may easily arise from obstruction of the Lymphaducts, and suppression of usual Evacuations.

§. 8.

Sylvius blames the *Serum* most, as by its briny, salt Acrimony it not only vellicates the Lungs into frequent Coughing and tires them out, but also at length frets the Coat of the *aspera arteria*, which being fretted, this Ulcer of the Lungs follows. He holds also, That oftentimes at first the pancreatick Juice is not well mixt with the Bile; whence it comes to pass, That the over thick Chyle is not duly transcolated through the Glands of the Mesentery: for thus the thicker share of it sticks in the lacteal Glands untranscolated, and being crammed up there it hardens, but the serous Part of it only is carried by the *ductus thoracicus* towards the Heart; for he will have it, That by the Laws of the Circulation of the Blood, the Vesicles of the Lungs may be filled with a too serous *Lympha*; inferring from thence, that a Solution of Continuity, and then an Ulcer may easily be raised.

§. 9.

The Cartesians maintain, and that upon good grounds, That a Consumption arises from an Afflux of acute and sharp Particles, that eat and corrode the Lungs, whether these vicious Particles get into them out of the Arteries or lymphatick Vessels in manner of a sharp Catarrh, or when an Ap-
stem in a Quinsy or Pleurisy breaks, and the Matter runs into the cavity of the Breast; and hereby they prove it, because all that follow distilling of strong Waters, and other chymical Operati-

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ons too much, also they that work in Lime, such as Bricklayers and Plasterers, do usually, by reason of the Sharp Subtil and Volatil Particles, which arise from such subject matter, dy Consumptive. And for the further confirmation hereof, there is not one Physician but prohibits Sleeping in a Room that is newly plastered: for such acute, volatil Particles do not only volatilise the Blood, but they fret the very Coats of the Arteries, and when they are fretted, the Blood must needs run out, whereupon ensues Spitting of purulent Matter, according to *Hippocrates*; for it is unanimously agreed upon both by the most eminent of our faculty, and by the *Cartesians*, as appears from *Cart. Princip. Philos. part. 4. art. 92.* that *Pus* may be made of Blood. The Body also wasts because of the Acrimony of the *Pus*, for *Pus* has much Salt in it.

§. 10.

NOW we will give our own opinion; and I think the immediate and proximate cause of a Consumption is an exulceration of the Lungs. Nor let any man doubt that there is an Ulcer in this Disease, for in several dead Bodies, as I said before, that I have opened, I have seen an Apostem with mine own Eyes. I judge the proximate cause is acid: sharp Particles, but volatil, which corrode the Substance, Vessels and Vessels of the Lungs, and also turn the extravasated Blood into *Pus*. For that an Acid has a Corrosive and Exulcerating faculty, appears from the application of Spirit of Nitre, Sulphur, and other acids

to the fleshy parts, where we find, by the appearance of white, purulent matter, that they manifestly corrode; whence we may easily conclude, that the same Acid can turn Blood into *Pus*. For (to instance) if upon common Sulphur dissolved in a *Lixivium* an acid Spirit be poured, its reddish colour will turn White. Now, to apply this to the present purpose, we must know that in the Blood (as is granted from the analysis of it) there are oily parts, which make up the Sulphur, and Saline, Lixivious, and Acid ones, not unlike the Particles of the foresaid experiment; and so the Acids overcome the Sulphur in the Body. I could produce more experiments to this purpose, but now for brevities sake I shall refer the curious Reader to *Willis, v. 9. l. de fermentatione*. Among the antecedent Causes I reckon Acrimony of the Blood as chief, for if we well consider all Consumptive Persons and their Symptoms, we shall meet with nothing but signs of a sharp Blood, that exulcerates the Lungs; sometimes a Consumption comes from sharp exhalations arising from Stinking of Linæ. A bastard Consumption arises from Hypochondriack Melancholy, wherein the Mesenterick Glands and Lacteal Vessels are obstructed, so that but little of the Chyle is carried to the Blood, wherefore the Blood grows thin and causes Leanness. But as for great difficulty of Breathing in this Disease, it is caused usually by abundance of *Pus* stuffed up in the Lungs; which consequently oppresses them; for natural respiration does not only serve for discharge of fuliginous Matter, as the Ancients held, or for the Cooling

Cooling or Circulation of the Blood, or for Fermentation of the voice; but by means hereof the Blood is thinned and dissolved in the Lungs, and hereby the *Sulphur* of the Blood is volatilised, to the end that in an augmented Fermentation in the Heart it may unite with the volatil Salts of the Blood, and become a spirituous Gas, or vital, hot Spirits, and in probability lucid, that so the Blood may be kindled, as the Excellent *Stimulus* has curiously observed. Now also I shall give you the causes in brief of the most urgent Symptoms in this Disease according to my own Judgment, for so the universal cause will more exactly appear.

Whence therefore should we derive the cause of a Cough, but from acrimony, *i. e.* from the acidity of the *Pus*, or of some other Humor, stopping and stagnating, which solicites the Lungs to eject what is troublesome to them?

I ascribe the wasting and emaciation of the Body to Blood that is polluted and made sharp by an Ulcer; for these acid and sharp saline Particles of the Blood are voracious, and do plainly devour, or cast out by colligative Sweats the balsamick and oily parts, which are fit for Nutrition, whereby the disturbed Mass of Blood is rendered unfit for nourishment; and when little or nothing comes in place of the lost parts, it cannot otherwise be, but that the body must by little and little decrease and consume.

Moreover I derive a slow Fever from an unequal mixture of the Blood, as I also do the flushings especially after Meals, because the Chyle in a few hours after eat-

ing is turned into too sharp a Blood, which then passes by the capillary Arteries to the out part of the Skin and causes a redness of Cheeks.

Lipthymies or Swoonings; which show themselves in a confirmed and mortal Consumption, arise from a vitious Efferveescence of the Blood, or rather from a vitious Acid, that turns the Blood into Clots.

A Looseness (which supervening, the Patients, not only by *Hippocrates* his authority, but from my own observation, must be given up as lost) comes from hence, because by reason of the great Acrimony of Humor and Dissipation of Spirits ensuing thereon, it cannot otherwise be, but that the *Pus* in the Breast must by its Acrimony taint all the Blood, and make the very bile sharper, which being poured out of its bladder, of Consequence there will be a continual provocation to stool; for in above six Consumptive Persons, that I have opened, I found the Gall-Bladder quite empty of Gall, and ever since I have suspected, that in such as are inclined to a Consumption, their Blood at first is made over sharp with Bile, which Bile also in Consumptive Persons is for the most part of a Saline, Oily, Volatil nature; wherefore in the first degree of a Consumption People complain of a bitterness in their Mouth, all which things argue an evasated and volatil Bile.

If the Hair falls in a Consumption, it signifies that the Blood is so sharp, that it eats the Roots of the Hair; for the sharp *Pus* mixt with the Blood, as it is discharged on other parts,

So also on those of the Head upon the little Glands, that stick about each pore of the Skin, which are the Roots of the Hair; for where such Glands are, there are Hairs, and the whole Body is hairy, though the Hair be not seen.

Now the rest of the Symptoms and their causes will be plain from what has been said, so that we will insist no longer upon their explication, since it is evident that all these evils flow from one source, that is, from a sharp Acid, or Bile, lying in the Mass of Blood: Wherefore no Consumptive Person dares drink acid Spaw waters but at his peril, because of the Vitriolick Sharp Particles: and the rest of the *juvantia* and *nocentia* will show you the same. Thus much of the Cause, now to the Prognostick.

§. II. Prognostick.

Consumptions come especially between the Eighteenth and Thirty fifth Years of ones Age, because there is not only abundance of Blood in Young Men, but it is also sharp, because of abundance of Choler (wherefore mark what *Eo-race* says,

Non ego hæc tulissem calidus juven-ta, consule Blanco.)

And the Vessels being filled with such Blood are easily extended, broken and corroded. A Consumption also is a Chronical Disease, and as in the beginning it is easie to be cured, so in progress of time it is incurable. Wherefore *Timæus à Guldenkleet l. 2. Ep. 2.* says very truly, *In all my Practise, and I*

have practised above seven and thirty years; I could never restore any one, that had an Ulcer in his Lungs, to perfect Health, though I have left nothing unattempted, that could any way conduce to the Cure of this Disease. For exulcerated Lungs are difficultly cured, partly because of the tenderness and rarity of their substance, partly by reason of their continual Motion, which hinders their consolidation, wherefore Patients often break into Invectives against their Physicians, because all Medicines in a manner have no effect. The case is the same in one that comes from fascination, and it is as hard to know, as to cure it, because the tri-bick Poyson seizes a Man secretly, and oftentimes it is not discovered till the Disease be confirmed. And we may say the same of Love-Potions, for the harm is more easily prevented in the beginning, while the Ferments of the *viscera* are still good, than when it is gone further, and the tone of the *viscera* is not only thereby destroyed, but the Habit of the Body also is wasted, for which there is seldom or never any hope of Cure.

We must therefore follow the most prudent advice of *Galen* in all Consumptions. Let us predict their danger, and warn them of their end, and hereby we shall acquit our selves from all blame and disgrace. But above all things want of Appetite is bad in Consumptive Persons, especially if the *hypochondria* be puffed up with Wind, and the Stomach be swelled with a Mass of ill Humors, of which all that are Consumptive complain. Besides a slow, weak Pulse, with difficulty of Breathing, and a violent, cruel Cough, show, that

that Life is in danger. Also faintings, colliquative Sweats, Fluxes, and oily and fatty Urines, Convulsions and Cramps are most certain fore-runners and messengers of Death, according to *Hippoc. sect. 2. aph. 1. In whatever Disease Sleep does disturb, it is mortal; but if sleep refresh, it is not mortal.* Wherefore the disturbed sleep of Consumptive Persons, which does rather afflict than refresh, indicates the Consumption to be incurable. Hoarseness also (which yet I have observed two years in a Consumptive Person) does show that Death is not far off; also shedding of the Hair, a *delirium*, swelling of the Feet, and swarming of Lice signify that Death is in the Pot; a Consumption from old Age is also incurable. Consumptive Persons commonly dy when the Leaves do bud in the Spring, or when they fall in Autumn. Some of them, who have had one long, are taken with a cold Fit before their end, according to *Hippoc. Coac. prænот. f.* Stinking Spitte also denotes danger. An hereditary Consumption, and any that is thorowly fixt, is never cured. Death quickly follows a suppression of Spitting. But this must be observed in general, That in every Consumption, this purulent Spitte must be carefully distinguished, lest coagulated Serum be mistaken for Pus. On the contrary, there is some hope left, if the voided Pus be equal, of one colour, white, if easily raised, if the Patient be obedient, the Symptoms few and mild, the Strength and Appetite entire, and if the sharp, vitious Humor be carried by *metastasis* to the Lips or some of the Excretories, which Signs nevertheless, are fallible.

§. 12. Dietetick Cure.

Now having seen the nature of this Disease, we will endeavor, as far as is possible, to remove it, and attain the end of our Art, which is Health. We will begin with Diet, by means whereof alone some most grievous Diseases are cured, and without which Physicians do usually labour in vain. And it consists in the legitimate use of the fix Non-naturals, so that what are hurtful may be avoided, and other more beneficial may be observed. The first is Air; and that which a Consumptive Man should live in, must be temperate, serene and mild, rather inclining to cold; a hot and dry, and an intensely cold one must be avoided. Temperate Cold and moisture is not amiss. The Autumnal cold Air is hurtful, for it destroys the Ferment of the Lung; wherefore a Consumption is reckoned by *Hippocrates* among Diseases that come in Autumn, because a cold Air taken in suddenly after the Heat of the whole Body, is a cause of divers Inflammations, and consequently of a Consumption. The case is the same, if it be impregnated with contagious and ill figured Particles, as *wolfgangus Hæstius* in his *Hæc. Med.* has observed, how a Bricklayer was killed by the foresaid corrosive and sharp exhalations of Lime: so *Valerius Maximus lib. 9. c. 12. n. 4.* reports, That *C. Marius* ended his days by lying in a room, that had been newly plastered, and had a great fire in it. Miners and Refiners of Metals run the same fate, and metallick Mines are well known for this mischief, out of which there arise arsenical Spi-

its (which *Heimont* calls *Gas Sylvestre*) that are very offensive both to the Lungs and Brain ; and also to them, who fall uninstructed upon the Secrets of Chymistry, and handle Antimonial and Mercurial things imprudently, because of the aculeated, volatil Particles of the Salts, which exasperate the Lungs. Contagion may also be referred hither ; for sufficient security cannot be given for them, who live familiarly with consumptive People ; as we have an Instance in a Woman, that was no way predisposed to a Consumption, and yet by lying by a consumptive Husband she died of one, you may find also other instances in *Riverius*. Wherefore prudent Physicians, when they must visit such Patients as these, do prudently provide for themselves, by holding some Alexipharmack Trochiscs in their Mouths. This Disease in some places, especially at *Hanover*, is endemick. Compare our *Theatrum Theriac. celsi*. with what *Nillis* says c. 6. de phthisi pulmonum. For upon some consumptive Persons, the instance of the Air is such, that the cause of the Disease may sometimes be wholly ascribed to the incongruity of the Air wherein they live ; and the change of Country or Air, conduces more to the Cure than any Medicines whatever. Therefore most of the English, when they are troubled with a Cough or Consumption, flock over to the Southern Parts of France.

Meat and Drink act their share likewise ; Meat therefore must be of good Juice and easie Digestion, that the languishing and emaciated Body may recover Strength thereby. For which purpose Veal, Pigeons, Pullers, and Broths made thereof are proper, Hens Eggs,

Crey-fish and Broths of them or of Cockles, Snails, Oysters, or Frogs are commended. Among Fruits sweet Almonds and Emulsions made thereof, Raisins boyled with Meat, Dates and Figs, (the eating whereof has cured many of Consumptions, as Practicioners testify) are good. Milk, above all other things, affords good nourishment for emaciated Bodies, especially if the Creature that gives it, be fed with Early and other antiphthisical Plants, Womans Milk (if it can be had) is the best, Asles is next, drunk milk-warm, so those things be but observed in the Case, which we shall after prescribe. On the contrary, avoid all things that are acid, sharp, salt, bitter or viscous ; which last, though they are best able to inviscate the saltness of the Mass of Blood, and in that respect are good, yet they are apt to clog and glew up the small Vessels of the Mesentery, and stop the passage of the Chyle, so that the Body wastes, and therefore in this regard they are hurtful, as *Mollenbr.* in *tract. de Arthrit. vag. 8. 13.* testifies. Let Onions also, Garlick, Mustard, Leeks and all such things be avoided as hurt by a rabidick Antipathy, of which nature the Sea-Hare is, as *Galen* and other Authors after him do say ; but I shall not vouch for them. All manner of Food taken disorderly, though it be of a good Juice, is hurtful, because it breeds Crudities, Obstructions and Inflammations. We must not also rely too much on sweet things, for they bear about them privately a morbose Acid, which when it is dissolved in the Body puts forth its sting, and by coagulating the Blood hinders its Circulation : therefore they take

an ill course for their Health, who abuse sugared things, especially Sugar of Roses, as is ordinarily done.

As for Drink, strong Beer made of Birchen Juice in the Spring is the best to recover lean, consumptive People. But because many cannot endure Beer, instead of it one may use a decoction of Barly with Raisins, or of the Woods, especially of Sanders and Brazile, or they may drink Whey, or Milk it self, in which Steel has been quenched. Generous Wine, not egre nor over hard, yet somewhat rough, drunk at Supper, strengthens the Stomach, and encreases the Spirits, and so contributes much to nutrition, especially in a Consumption from Age, or in any other, where the Animal Spirits are low. Yet a Man must avoid high drinking, and nightly good fellowship, especially where Men drink Wine, because it thins and sharpens the Blood, enrages and weakens the Spirits, and destroys the Tone and Fermentation of the Stomach; what wonder then, if Drunkards grow consumptive? Also drinking cold Drink, when one is hot may cause an Inflammation, and why not a Consumption? For all the Faculties that govern the Body are thereby disturbed, so that the whole Body cannot chuse but be disordered. *Aqua vita* also in this case must be avoided, as one would avoid Poyson; for indeed it is *Aqua Mortis*.

It is well known of what moment Motion and Rest are: for with any remarkable Motion of the whole Body, a violence and detention of respiration must necessarily concur, and by consequence the Circulation of Blood in the Heart is increased, and so being violently forced thence, it may easily break some

little Vessel or other: Thus I observed three by their preaching too loud fell into a Consumption. For in over violent Motion the Animal Spirits are also exhausted, whereby the Humors are rendred temperate and sharp, and often become the Authors of spitting Blood, and of a Consumption. Too much Rest likewise is naught, because, it dulls the Humors, whereby is caused a Costiveness, Stoppage of the ordinary course of the Hemorrhoids, and *menstrua*, and the Blood is rendred sharp and corroding.

Sleep and Watching must here be moderate, and according to *Septalius* his advice, a Man must sleep more than he wakes. The Belly must neither be too bound, nor too loose, but if it be costive, as in Consumptions it frequently is, it must be loosened by Solutives. All other Excretions also should succeed either naturally or artificially. Because, if there be a discharge of what ought to be retained, or a retention of what should be discharged, this Disease may easily ensue: For when the Hemorrhoids or *Menstrua* are stoppt, they do not seek a Passage by the hemorrhoidal or uterine Vessels, but by those of the Lungs, and the *aspera arteria*; whereupon something may easily remain in the Lungs, putrefy, grow sowre and show its venom there. A suppression of Seed also may cause the same Disease.

The Passions of the Mind must be moderate, and Men must not indulge its Emotions; Care, Grief, Frightfulness, Fear, Anger, Love, too much use of *Venus*, Meditations, nor Night Studies: for all these things disturb the Animal Spirits, taint the Mass of Blood with heterogeneous Particles, stop and

Coagulate it, disturb Mens Faculties, and put all into confusion.

As to the natural Causes, a cholerick Complexion, which is easily put into a Heat by any of the six Non-naturals, is very subject to a Consumption; which Hippocrates seems to have had an Eye to, when he says, That the time of Youth, by reason of its cholerick Constitution, the great turgescency of Humors, and frequent Errors in Diet, is subject to this Disease. So also Women, because of their sedentary life, and Maids by strait lacing themselves according to that of Terence, *Juncæ apparent, atque juvenibus placeant*, do easily contract this, and other dangerous Diseases of the Breast, because they stop the Blood in its Motion to other Parts,

§. 13. Pharmaceutick Cure.

THE Ancients take their Indications from three things. 1. From the Ulcer of the Lungs. 2. From the Fever. 3. From the extenuation of the Body; yet so, as to have due regard to the Symptoms, viz. the Fever, Catarrh, Looseness or Costiveness, Thirst and want of Sleep. For cleaning therefore the Ulcer of the Lungs, they use Preparers or Abstersives, both inwardly and outwardly; such as *Syrupus de hyssopo, de liquirit. capil. Vener. Mede*, Decoctions of Barly with Sugar, Figs, Raisins, Liquorice, Horc-hound. Outwardly they commend Cataplasms and Plasters of Linseed, Fenugreek, Marsh-mallow, with Oyl of Mallow, Honey, &c. Then they divert the Catarrh from falling on the Lungs by Clysters, Lixivines, Blood-letting,

Frictions, Ligatures, Cupping, Issues and Bathings. Afterwards they advise such things as may stop the Matter from falling on the Lungs, such as Bole Armenick, *Terra sigillata*, Conserve of Roses, Sugar of Roses, *Diacodium* and other Opiates, such as Treacle and Nithridate. But in salt and thin Distillations, besides the things aforesaid, they commend the Decoction of *Guajacum*, Sanders, *China*, &c. Further, for Absterfion of the Ulcer they use things that both purge a little and also expectorate, such as Syrup of Violets, Roses solutive, of Polypody, Manna, Lenitive Electuary, *diacassia*, Rhubarb, *Cassia*, Polypody, *Mel solutivum, passulatum*, &c. At last for the healing and cure of the Ulcer, they use such things as unite, consolidate agglutinate and breed a *Callus*, and they try to do this by Driers and Astringents, such as Sugar of Roses, Bole Armenick, Foxes Lungs, Dragon's-Blood, Harts-horn, Juice of Plantain, Crabs-claws, Gum Arabick, *Diapenidium*, &c. But they prefer Milk above all these things, because by its serous part it cleanses, by its caseous Part it heals, and by its butyrous Part it asswages and moistens; concerning the use of it see *Septalius cap. de phthisi*, and my own Opinion hereafter. For the second Indication they use divers Moistners and Coolers, which shall be mentioned anon. For the third Indication, to wit for Emaciation, they use divers Waters destilled off Calves Livers and Lungs, Crabs and other viscid Animals; nor do they neglect restorative Broths, Gellies, Electuaries, sweet Meats, Syrups, &c. Of which and Externals, to small purpose, there is no scarcity in Authors. This was the old way.

§. 14.

But the Chymists, That they may remove the stoppage of the Lungs, and correct the hostile Spirit of Salt, whether it be coagulating, or dissolving and corroding, give Spirit of Tartar, *Salis dulcis*, Milk, Flowers and Balsam of Sulphur, Spirit and Oyl of Turpentine, Franckincense, Myrrh, &c. But for moderate Asthicks consolidation and strengthening they magnify Tincture of Corals, Liqueur of Pearl, Essence of Saffron, and *Laudanum Paracelsi*; and above all they commend *Corallatum dulce Mercurii diaphoretici*, by which Medicine Paracelsus, as his Epitaph tells us, cured many Consumptions. Also to oppose this Disease they draw divers Tinctures from Gold, Silver, Pearl, Mummy, Humane and Swines Blood, Bawm and other pectoral Herbs. Paracelsus also maintains, that a Wild Mouse reduced to Powder and given is an excellent Remedy for a Consumption. He takes several things also from the Dietetick fountain, as Liquorice, Currans, Purslane, Lettuce, both sorts of Radish, red Betes, Pine-nuts, and all sorts of Mallows.

§. 15.

Helmont highly magnifies the foresaid Medicine commended by Paracelsus, namely *Corallatum dulce Mercurii diaphoretici*; and he adds Milk of Pearl, all which things by their eminent Balsam tinge the whole Body, and qualifie the innate Spirit of the Lungs, so that it abates of its fury. He does not condemn *Laudanum*. Moreover he says, That a large spoonful of

colcothar boyled in Linseed Oyl, taken inwardly, as it cures all Ulcers, so that of the Lungs.

§. 16.

Ullis uses the three following Indications. 1. To assuage, correct and remove disorders in the Blood, from whence fluxions of the *Serum* do arise. 2. To derive all the Recrements of the Blood (which are apt to separate from it) from the Lungs to the Pores of the Skin, or to the urinary Passages, or to some of the Emunctories, or else to discharge what is gathered in the Lungs already. 3. To fortify the Lungs against the reception of *Serum* and other Humors, and also to guard them against excess of external Cold, whereby otherwise the Lungs might be hurt. For the first, that is, to appease the effervescence, and the subsequent dissolution, making a separation of the *Serum* and other Humors (since for the most part this depends upon some foreign Acid) things that break and correct an Acid are good; namely Diaphoreticks, inasmuch as they expel the superfluous *Serum*; also Aqueous things, inasmuch as they dilute the peccant Acid: for which purpose Pectoral Decoctions are commended. Take the Author's own Receipt.

Take of the greater Daisy one handful, cleansed Snails No. 3. Root of Eringo half an Ounce. Burnet three Drachms, Butcher's Broom two Drachms, Leaves of Ground-Ivy, Spleen-wort, Colts-foot each half an handful, Fenil Seeds half an Ounce, Currans six Drachms, Jujubs No. 6. Boil them

them according to art in Spring-Water. Sweeten the Decoction with Syrup of Red Poppy.

Also a Decoction of the Wood of *Guajacum*, *Sassafras*, all the Sanders, Shavings of Ivory, and Hartshorn is prescribed by him, as useful. To obtain the second Indication, namely to derive the Recrements of the *Serum* and other Humors from the Lungs, and to get out the tabick Matter, that already sticks in the Lungs, all sulphureous Balsamicks are good to which end he gives about 6 or 10 Grains of the Tincture of Sulphur of Antimony in some pectoral Syrup. He gives also 4 Grains of Balsam of *Pera* in Conserve of Roses, and several other things made with Oyl of Turpentine, and also Preparations of Gum-Ammoniack. The third Indication, namely the strengthening of the Lungs, or the amending of their hurt constitution, is answered by all such things as resist putrefaction, cleanse, heal and strengthen, for which purpose he commends all balsamick and traumack Medicines made of Sulphur. He therefore advises the taking in the Fume of Sulphur by a Pipe or Funnel into the Lungs. In this case also he advises the change of Air, that is, from the City to the Country, where the Air is more Sulphureous by reason of Dung, and other stinking stuff. He sets much by other Fumigations also, such as these following, *viz.*

Take of Leaves of Hyssop, Ground-Ivy, white Horehound each two handfuls, Roots of Elecampane two Ounces, *Calamus aromaticus* half an Ounce, Seeds of Anise, Caraway each one Ounce. Cut

and bruise them. Boyl them in a sufficient quantity of Spring-Water. Let the Steam of the hot Colature be received by a Funnel, Morning and Evening for a quarter of an hour.

Another made of mere Balsamicks.

Take of *Olibanum*, white Amber, *Benzoin* each one Drachm and an half, Powder of red Roses, red Sanders each one Drachm. Mix them. Make a Powder. It must be strewed on hot Coals, and the Smoak must be received by a Funnel; Or,

Take of Gum-Ivy, Frankincense each two Drachms, Flour of Sulphur a Drachm and an half, Mastic one Drachm. Make Trochisces with a dissolution of Gum Tragacanth.

The Author used these Trochisces last prescribed in a Consumption, when it was beginning. Now we will proceed to his Cure of one confirmed, in which those Medicines do most good, that check the Heat of the Blood, that restore and gently assuage the Animal Spirits, and recruit the emaciated Parts; therefore for Food he commends the Milk of a Woman, Ass, Goat, or any other Creature, also Oatmeal and Barly-Grewel; and for Drink, Barly-Water, and Emulsions; He also advises the use of Pectoral Syrups and Licks, which may assuage the Inflammation of the Throat and Lungs, and facilitate Expectoration. The weak sort of Hypnoticks also, in procuring moderate Rest, do sometimes a great deal of good.

§. 17.

Let us now see what *Sylbius* says. He divides his Cure into three Parts, namely, for a Consumption beginning, for one already begun, and lastly for one that is consummate and past hopes. Therefore his advice is, in this Disease, to use Medicines betimes, since a confirmed Consumption is rarely or never cured; and by all means he would have every violent Cough quickly stop'd, but more especially in such as do encline to a Consumption. In a Consumption therefore that is begun, all the danger lies in the Ulcer of the Lungs, from which *Pus* is communicated to the whole Mass of Blood, whereby is caused not only a lingering, hec tick Fever, but a mortal Consumption also. Now the Cause that maintains this Ulcer is, according to him, a Catarrh, and that sometimes salt, sharp and acid, sometimes mild and watry or viscid; or *Pus* communicated from some other place. In the beginning therefore he cures this Disease the old way, as if it were a Catarrh, and he endeavours not only to divert it, but he also corrects it; that is, when it is sharp, he cures it by Medicines, which temper that Saltness and great Acidity; for the attaining of which end he likewise prescribes Diureticks and Diaphoreticks, to temper the Acrimony of all Humors, which when they are tempered he carries off by Hydragogues; in this respect he likes Issues in the Neck, Arms and Legs, for abatement of the Humors; and he expects the same effect from Errhines and Sternutatories, which evacuate the vicious and redundant Humors by

the Nose, and at the same time divert them from the Lungs. For tempering the salt Humors that fall from the Head, he highly commends *Pilule de cynoglossa*, *de styrace*, and other such things, but Opiates above all. Moreover he cures a mild and watry Catarrh, by giving a gentle Sweat, or by fuming with Mastich, Frankincense, Amber, *Styrax*, *Bedroin*, &c. For the same cause he also sets a great value upon Decoctions of Roots and Woods; for instance, of *Guajacum*, *Sarsaparilla*, Sanders, Oak, Juniper, &c. But if the Catarrh proceeds from viscid Matter, he says, Incisers and Alterers are good; such as Gum *Bdellium*, *Sagapenum*, *Galbanum*, *Ammoniac*; and Mercurials also, as *Mercurius dulcis*, &c. He commends divers things to divert and evacuate *Pus*, when it is made in the Lungs, and in an *Empyema* he likes Tapping of the Breast. Then for cleansing of the Ulcer, he commends Roots of Elecampane, Birthwort, Leaves of Colts-foot, Scabious, Agrimony, Hyssop, Speedwel, Maiden-hair, Ground-ivy, Vervein, &c. out of which divers Decoctions and distilled Waters may be prepared: he commends also the taking of three Drachms of *Penice* Turpentine now and then in Syrup of Violets. He also highly values raw Hony or Mede. Yet he prefers Balsam of Sulphur made with Oyl of Anise, Amber, Juniper, Turpentine or Nuts before all other things. Then for healing the Ulcer of the Lungs, he thinks a Decoction of red Roses does far surpass the Conserve, on this score, for that by the Sugar in the Conserve the Stomach and Guts are filled with Phlegm, whereby not only the Appetite is destroyed, but chy-

chylickation likewise is hurt; all the *terra sigillata*, Boles, roots and leaves of Saracen's Confound, Plantain, Sanicle, Winter-green and other vulnerary Herbs are good. But here it is observable, That our Author makes no great account of Flowers or Milk of Brimstone; for he confidently maintains, That he never found any laudable effect from them. For the Palliation of this Disease he prescribes many generous Remedies, which only mitigate the Symptoms and restore Strength. For discharging therefore of viscid Pus, which usually causes difficulty of Breathing, he advises inciding Medicines, as Decoctions and Licks made of Hyslop, Maiden-hair, Elecampane and the like, for which purpose *Balsamus sulphuris anisatus* is effectual. For the restoring of a decayed Appetite he commends 5 or 6 drops of *Elixir Proprietatis Paracelsi* given in Wine before Meal. Furthermore for reparation of Strength, he says, That besides Meat of abundant nourishment, and drinking strong Liquors and rich Wines, all aromatick things, as Ambergrise, *Confessio Alkermes*, or *de Hyacintho*, are good. Take this Receipt;

Take of Conserve of red Roses made but with little Sugar one Ounce, *Confessio Alkermes* two Drachms, *de Hyacintho* one Drachm and an half, Ambergrise three Grains, *Balsamus sulphuris trebinthinatus* half a Scruple. Mix them. Make a soft Electuary with Syrup of Coral, of which the Patient may take often the quantity of a Nutmeg.

§. 18.

According to Cartes his hypothesis Purgers, but mild ones, must be given in the beginning of this Disease, such as Syrup of Roses solutive, Rhubarb and Manna, but in the progress of this Disease they will have Bleeding and Purgings to be let alone. However for cleansing an Ulcer in a confirmed Consumption, and for healing it, they commend the following Decoction.

Take of Roots of Liquorice, Lovage each six Drachms, *Guajacum* cut two Ounces, Juniper Berries one Ounce and an half, Seed of Sermountain, Anise each three Drachms. Boyl them in a sufficient quantity of pure Water; add to the Colature of Syrup of Hedge-Mustard and Hyslop each three Ounces. Of this the Patient may drink a little Draught twice or thrice a day.

They also prescribe divers Decoctions and distilled Waters. *Mercurius dulcis* also is good to heal the Ulcer, cohobated with Spirit of Wine *Helmont's* way, and Balsam of Turpentine; and all Antimoniates, which are fixt, and proper to dull, and take off those sharp, cutting Particles. To hinder over-much Coughing and Spitting, Opiates are very good, such as *Theriaca celestis*, *Theriaca Andromachi*, *Laudanum opiatum*, *Pilula de Cynoglossa*, &c. Finally, to rid the Lungs of the sharp Particles of the Pus all hard and ponderous things are proper, as testaceous things, Decoctions of the Woods, which have

have the Faculty of imbibing and altering the sharp Humors, *Mercurius dulcis* also, Bole-Armenick, *terra sigillata*, and several other things are commended, of which hereafter.

§. 19.

HAVING seen other Men's Opinion, we will now give our own. Since therefore we have made formerly the Cause of this Disease to consist in some sharp Acid, lodged in the Blood with some viscosity, at length corroding the Lungs, and quite coagulating and stopping the Blood and thereby enraging the Spirits; it will be worth the labour to do all we can to correct the sharpness and corrosive Acidity of the Blood, for when that is corrected, a Consumption may as well be cured, after it is begun, as in the beginning. Now therefore let us enquire after the Matter of our Remedies, which is usually taken from three originals, *viz.* Diet, Chirurgery and Pharmacy. But a Chirurgeon can do little good in this case: for taking of Blood from a consumptive Person seldom does good, and we may well say with the Poet,

Non defensoribus istis

Tempus eget.

Borellus cent. 4. obs. 15. is of the same Opinion, for there he advises rather to infuse more Blood into consumptive Persons than to take any from them, especially if the Age be an obstacle. But when the Disease proceeds meerly from abundance and sharpness of Blood, bleeding is very proper before there be a corrosion of the Lungs. *Hip-*

ocrates gives us an instance of this, *l. 5. Epid. cap. 6.* who perfectly cured the Man in *Oenas*, consumed through abundance of Blood, after he had tried all other Remedies in vain, only by bleeding him in both Arms, till he had lost almost all the Blood in his Veins. I cured a Noble Virgin of such another Consumption, who, when she was nothing but Skin and Bones, upon taking only three Ounces of Blood from her, began to mend, and recovered her Health perfectly by taking a few Medicines. But we must go warily to work, for every one has not such success. Instead of Bleeding, Issues are good in the beginning and progress of the Disease: for several consumptive Persons, while their Issue was open, have been well, who upon the closing of it, have been ill. In Pharmacy these things present themselves in the first place, which evacuate the peccant and morbid Matter from the whole Body, and they are either Vomitors, Purgers, Diaphoreticks, Diureticks, or Alterers and Sweetners, which compose the Spirits, and hinder the coagulation of the Blood. As for Vomits, they are ever suspected in this case, but if it certainly appear, that the viscera are not infirm, nor the Lungs corrupt, if there have been no spitting of Blood formerly, and if the Stomach abound with peccant Humors, especially with bilious ones, if there be a squeamishness and disposition to Vomit, they bear the Bell from all other Evacuators: for more may be discharged at one Fit of Vomiting than at half a dozen Stools, if the strength will but bear it, and no other circumstances prohibit it: Otherwise Vomits cannot safely be given

given for fear of breaking the Vessels of the Lungs, and other Symptoms, as *Willis* well advises *Pharmacop. rat. sect. 3. 13.* As for Purgatives, they likewise are not very safe, because they are not able to carry off the Acid, but rather encrease the Acrimony. Yet in the beginning we admit of them, for the discharging of bilious Particles, which reside in the first ways, provided they be gentle: for they that are inclined to a Consumption, at the beginning complain of a bitterness in their Mouth. We prefer before others Leaves of *Senna*, *Rhubarb*, *Prunes*, *Curran*s; especially Decoctions and Infusions made of them, mixt with other Pectorals, which do consumptive People more good than Powders. *Rulandus* in his *Theatrum* cries up the following Potion.

Take of the Leaves of Alexandrian *Senna* one Ounce, Hyssop half an handful, Ginger half a Scruple, Sugar-Candy half a Drachm. Boyl them in a sufficient quantity of Wine. Let the Patient take three Ounces of this every day, till the Body is well purged.

If you meet with one that loves Wine, prescribe him a Physick Wine, made of Pectoral Herbs and Roots, and some of the forementioned Purgers. But I often fall upon the Enemy, before I give a Purge, that is, upon the Acid and the peccant Acrimony; for unless this, which is the cause of the Disease, be timely removed, whatever you do, the Patient is undone: And this Acrimony is removed by the use of Balsam of Turpentine, giving ten drops or more at a time,

by which I have cured some. But the best thing to correct the acid and tharp coagulated Filth, that troubles the Lungs and is lodged there, and to discharge and qualify the residue that is in the Mass of Blood, is our Pneumonick Balsam, made of volatile Spirit of Antimony and oylv things. The Dose is about five drops, I would have communicated it, as the principal Remedy in a Consumption, were I not afraid, it might fall into the hands of Empiricks, which swarm like Flies in Summer; yet I shall not deny the communication of it to the Skilful in our Profession. In defect of this our Balsam, especially if the Patient spit Pus, and the Physician suspect an Ulcer in the Lungs, this following will do good.

Take of Balsam of Turpentine, of *Pern* each one Drachm and an half, Oyl Olive fresh, of *St. John's* wort each one Ounce. Mix them, of which the Patient may take half a spoonful Morning and Evening.

But since Patients in this Disease are always cholerick, which is the reason why they cannot bear oylv things, this may be substituted.

Take of *Cyprus* Turpentine one Ounce, Honey of Roses six Drachms, Liquorish-Powder three Drachms, Mix them. Give the bigness of a Nutmeg in the Morning.

And for this very end I highly value *solutum Sulphuris*, *Elixir proprietatis Paracelsi*, *Wedelii Tinctura antiphtisica* made of *vitriolum Martis*

tis and *Saccharum Saturni* with Vinegar and Spirit of Wine; Or,

Take of Vitriol of *Mars* one Ounce, put it into an Ounce of Vinegar, poured upon red Lead, or into so much *Saccharum Saturni liquidum*. Let them stand a Night in digestion, afterwards evaporate them. Add of Spirit of Wine, what is sufficient. Make a Tincture, filtre it, and keep it for use.

Also sweet Vitriol, freed from all its acidity, is good: And this sweetness of Vitriol, depending upon its Sulphur destroys the corruption of Wounds and Ulcers. Likewise *Balsamus sulphuris anisatus*, or *terebinthinatus*, or *succinatus* is good, if the use of them be rightly understood, especially if the Patient be bilious; for the skilful D. Michael has observed that upon using them too much, People have fallen into Consumptions, and heſtick Fevers. Medicines consisting of alkaline, volatile Parts are good in this case, because they imbibe and correct the peccant Acid; yet here we must be cautious. Antimonial Sudorificks are rather proper, which are fixt, and neither Purge nor Vomit; such as *Antimonium diaphoreticum*, *Bergardicum minerale*, &c. Helmont's Medicine also made of Mercury is good, which is sweetened by frequent cohobation with Spirit of Wine. Those Hawkings and Spitings, that are raised out of the *aspera arteria* and the Lungs (of which Patients complain so much) and arise from a sharp Acid, which predominates in the Blood and *Lympha* about those Parts, are best cured by things that soak up the Acid, such as the *Antihellicum* and

Stomachicum Specificum Poterii, *ſaccula Bryoniae*, *tertia ſigillata*, Boles, Crabs-Eyes, red Coral, Dragon's-Blood, Myrrh, and many more things besides. This may serve for a Prescription;

Take of Crabs-Eyes prepared, Coral prepared each one Scruple, *Antihellicum Poterii* half a Scruple, *Pulvis anonymus*, Flour of Brimstone with Myrrh each one Scruple, Pearl prepared fifteen Grains, Sugar-Candy what is sufficient. Make it either into Powder, or for nice Constitutions, make it into Trochiscs.

I think it best to abstain from violent Medicines and Alkalines. A Decoction of red Brazile-wood is found proper to temper the saltness of the Blood, and *Serum* in such as spit Blood and are Consumptive: Or you may use the following Decoction;

Take of the Roots of Smallage, Lovage, Colts-foot each one Ounce, rasped *Guajacum* three Ounces, Leaves of Colts-foot an handful, Flowers of Mullein two Pugils, Raisins of the Sun four Ounces. Boyl them in a sufficient quantity of Spring-Water; to two Quarts of the Colature add of Syrup of Jujubs two Ounces,

Waters which come off Sulphur are good. For I saw two Persons cured by them. When the Disease is confirmed, and the Patient is very lean, Milk (let some People say what they please) is the last Refuge: for by the serous Part it is not only absterfivè, but corrects the Acrimony of the Blood; by the caseous Part it consolidates; and by the butyrous Part

Part it heals and smooths. And it must be given in the Morning fasting three or four hours before Meat, newly milked, from four Ounces to seven; and again in the Evening as you please, and the Patient can endure it (that is, according as we find the Strength encrease) always adding a little Sugar or Honey, that it curdle not and turn sowre on the Stomach. Woman's above all others, as it is most agreeable to Humane Bodies, does most conduce to the recovery of the Patient; for it is more subtil, penetrates sooner, and nourishes better than any other. Next to this, Asses Milk is most proper for a Consumption, as *Trallianus lib. 12. c. 4.* says: for it is reckoned to be cooler, moister and thinner, and not so apt to curdle as others. And it is easie of Digestion; which *Azucenna l. 4. tr. 2. c. 6.* confirms, where he says, That next to Woman's Milk there is none so good for the Sick People as Asses; for it cures an Heftick perfectly, if it be curable. Goats Milk also is good for a Consumption, but that it is too astringent. When I wrote this I had a Consumptive Taylor under my Cure, who was very much out of order and hot upon his drinking Goats Milk: but he found Cows Milk more agreeable and cooling. And I can impute this alteration to no other reason, but that he had been most used to Cows Milk. In a Milk diet this must be observed, That no virious Acid be lodged in the Stomach, but, before any Milk be drunk, it must be got out thence by Absorbents; otherwise the Milk will curdle, and do more hurt than good. Also if there be a putrid Fever and a Looseness, Milk is naught. And the Creatures

which give the Milk, must not be with young: They must be fed with good balsamick and vulnerary Herbs. The drinking of Milk must be continued at least for three Months. There are many Vegetables also which inwardly cool and take off the Acrimony, and sweeten; such as Leaves of Endive, Purslain, Speedwel, Lettuce, Fumitory, Colts-foot, Thea, Chickweed, Violets, Flowers of Roses, Violets, Water-Lily, the four greater Cold Seeds, and all the Sanders; of which divers Medicines may be made. I shall give you some prescriptions, which will take off the Acrimony, and also cleanse and heal the Ulcer. But you must have a care that by too much cooling, you coagulate not the Blood, nor stop it in its Motion, and so hasten the Patient's death.

Take of *Sarsaparilla*, Roots of Fern, Colts-foot each one Ounce, Juice of Brooklime one Pound, Speedwel half a Pound, Colts-foot one Pound, Wall Rue, Scabious, Winter-green each half a Pound, Water of Sanicle one Pound and an half, the best Cinnamon half an Ounce. Shred them and infuse all with the Spleen of an Ox newly taken out, and a Calfe-Liver sliced, red Snails No. fifteen, for sixteen hours. Destil them according to art. Then add of Cinnamon Water one Ounce and an half, *Pulv. conf. Aug. cum saccharo* four Ounces. Mix them.

We use also to destil a Water off Oysters, Snails, Frogs and Crabs with Swine's Blood, which is very beneficial. If the Ulcer of the Lungs be new made by a Strab or Shot,

Shot, it may easily be cured with Vulneraries, especially with Powder of Crabs-Eyes. And this is what *Tachenius de morb. princip.* says. Wounds of the Lungs, which come from an external cause, and through some fault in Digestion, may be perfectly cured with vulnerary Potions; but not Ulcers, when they proceed from a decay of innate strength and radical moisture. Or you may use the following Decoction which check the Acid, that breeds the Pus in the Lungs.

Take of Root of Liquorish one Ounce, Dandelion, Colts-foot, *Scorzonera* each half an Ounce, Leaves of Scabious, Daisy, Colts-foot, noble Liverwort each one handful, Flowers of Scabious, Daisy, Colts-foot, Trefoil each two Pugils. Boyl them in a sufficient quantity of Common Water. Add to the Colature of *Syrupus de duabus* one Ounce. Mix them. Let the Patient take a Draught three or four times a day.

We have given the following Gelly, to nourish such as were weak, with good success.

Take of Shavings of Harts-horn four Ounces. Pour to it of Spring-Water three Pounds, of red Wine half a Pound. Digest them in a Vessel well stopt for twelve hours in a warm Place, then add of fresh root of *Scorzonera* half an Ounce, Cichory two Drachms. Set it by in the Cold in a Glass, that it may gelly. Thus the Head, Feet, Bones, &c. of Animals, which yield a Gelly, are good in a Consumption.

But when we find a great Heat of Blood in consumptive Persons, Emulsions made of the four greater and less cold Seeds, sweet Almonds, are good to allay it. To take away the Cough, which is the most urgent Symptom, these things are good, *lobach farfara*, of Fox Lungs, with Absorbents, such as Amber, red Coral prepared, *Antihellicum Poterii*, prepared Pearl, *Species diatragacanthi frigidi*, adding a little *Laudanum opiatum*, whereby the sharpeners of the Rheum, and the Cough may be stopt. Yea, the most experienced *Ettmullerus* testifies that after the use of Opiates consumptive Persons have often found themselves better, *Disp. de Opii vi diaphoretica cap. i. §. 15.* These are his Words, Certainly in Consumptions of the Lungs People find sensible benefit by Opiates, rightly administered, for thereby abundance of Filth is abated, not by suppressing it; but by preventing the breeding of it a-new continually; and being come to a better consistency, it is the more easily expectorated. And I have often admired how consumptive People could bear the constant use of Opium so long, yea for several Weeks, without any sensible harm or remarkable alteration: As *Crollius* likewise has long since observed in his *Basilica Chymica*. And they are the more grateful, because they procure Sleep, when it is much wanted. As for the stopping Colliquative Sweats, and loss of Seed, astringent Pectorals are good, such as *Saccharum Saturni*, *Vitriolum Martis*, *Antihellicum Poterii*. But the best Remedy of all in this case is *Wedelius* his Antihellick Tincture, made of *Saccharum Saturni*, *Vitriolum Martis*, &c. before mentioned: For it presently stops excessive Sweating and loss

of Seed, so that we pass by innumerable other Medicines, which are to be found in Books of Practical Physick. Besides the Remedies already enumerated, *Sympathetick Cures* are often used in this Disease, the manner of whose operation, though it be obscure, the use of them is however sometimes successful enough. And this Mystery may in some measure be understood, from what the famous *Comenius* says, in *Synops. physic. c. 10. in Append.* namely, That this proceeds from the consent of the Spirit that is in the Body, with that which sticks to the separated Matter, as he endeavours to make out by five Instances; the principal of which is, that *sympathetick Cure*, wherein the Wound it self is not cured, but the Weapon that gave it, or a Cloth, Wood or Earth dipt in the Blood, is anointed with the Salve, and yet the Wound closes and heals. *Hartman* has this Experiment following; Take an Egg, boyl it in the Patient's Urine, and then put it in an Ants nest, and let it ly there till the Ants have eaten it up. To which I may add another, imparted to me by a Nobleman; Dip a linen Cloth in the Patient's purulent Spittle, hang it in the Chimney, where the Smoak perpetually goes up, upon doing whereof, by a wonderful Sympathy, perhaps arising from consent of Spirits, it is found, that wonted Nutrition ensues, the Ulcer being healed by virtue of the Smoak. These Empirical Medicines are known to have worse success; first of all the Liver of a Wolf and an Otter, which an illustrious Person keeps as a great Secret; a Drachm of it must be taken in Powder for nine days. Another; Put Common-Salt into a piece of

Alder-wood, then burn it, let the Patient take the Ashes for a Month in some convenient Vehicle. Also, let the Patient every Morning eat a new Egg, laid by a black Hen, and continue this a Month and longer. Among these we may rank *Cardilucius* his Medicine, made of Horse-radish and Honey mixt together, whereby he boasts he has cured many. All consumptive Persons in a manner approve of Sugar of Roses, but I like it not so well, because of the Sugar that is in it, as I hinted before. Ground-Ivy powdered, and mixt with a little Sugar is good. Dry Figs are good, by eating of which I saw a Merchant's Son recovered and grow fat. *B. Binon* that good *Samaritan*, before he died, imparted to me, as an excellent Remedy, the Roots of *Aron* mixt with Flowers of Sulphur. So the eating of Daisy leaves fried in Butter is counted good. But who is able to reckon up all. Now follow the External Remedies, which are of use in a Consumption. Therefore beside the things already mentioned, Fuming is good to heal the Ulcer: The Vapour of a Decoction of vulnerary Herbs, (wherein there is an excellent Virtue to take off Acidity by the occult *alkali*, wherewith they are impregnated) may be taken in at the Mouth by a Tabaco-Pipe; or *Dr. Binnet's* way, by a Funnel. *Dr. Dorel*, an experienced Practitioner at *Frankford*, told me before he died, That he had cured a perfect Consumption by this way of Fuming. For the sake of younger Physicians I shall give you some Receipts;

Take of Root of Birthwort; Colts-foot each half an Ounce, Comfrey

frey three Drachms, Raspings of *Guajacum*-wood one Ounce and an half, Leaves of Hyssop, Speedwell, Scabious, Lungwort each half an Ounce, Mallow, Marsh-Mallow each two Pugils. Boyl them in Spring-Water, and whistle the Decoction is hot, let the Patient receive the Steam that comes from it. Or,

Take of Root of Colts-foot one Ounce, Frankincense, *nigella*-Seed each one Drachm, Turpentine boyled, dried and powdered half a Drachm, *Styrax* one Drachm, Cinnamon half a Drachm. Make a Powder for a Fume; or make Trochiscs with Mucilage of Linseed and Marsh-mallow-seed, and put them on Coals.

But among Externals I highly value the application of the following Plaster to the Breast;

Take of odoriferous yellow Wax one Ounce and an half, the best Turpentine six Drachms. Melt them on the fire, then add of Oyl of Turpentine two Drachms, Anise half a Drachm. Mix them. Make a Plaster according to Art. Or,

Take of *unguentum rubrum potabile*.

one Ounce, *resumptio* half an Ounce, *crocus Martis* three Grains, Oyl of Anise, Fenil each six Drops, Turpentine half a Scruple. Mix them. Put them in a Pot, to anoint the Breast.

To anoint the Chine or Back-bone this following is good;

Take of *unguentum Resumptivum*, Oyl of Frogs, of Worms each half an Ounce. Mix them.

We make Issues also with good success. But if none of these things be available, we must have recourse to insusory Chirurgery, as to the last Remedy. *Etmullerus* advises to make Infusion of an Essence made of vulnerary Herbs and *Sassafras*-Wood, with Spirit of May dew. Or let transfusion be made of a healthy Man's Blood into the sick Man's Veins. Also in a desperate case, if the Disease have its rise from plentitude, tapping will not be amiss, if the Patient be strong and courageous, and have a mind to leave nothing untried, *Van Horne* in his *Microtechni*, shows the way of it. Travelling also for change of Air and Diet is adviseable: for I knew three cured of this Disease by so doing. The famous Doctor *Sydenham*, my good friend, commends Travelling.

C H A P. V.

Of Spitting of Blood and Apostems, called Empyema and Vomica.

§. I.

Hitherto our consideration has been about a Disease, in which Blood is gathered about the *Pleura*; now we will proceed to the consideration of one, where the Blood is cast out of the Vessels of the *aspera arteria*, and for the most part, of the Lungs. It is called *Hæmoptysis, cruenta sputio*, or Spitting of Blood, and it is all manner of voiding of Blood at the Mouth, generally evacuated out of the Branches of the *aspera arteria*, that pass to the Lungs; as in a *Vomica* and *Empyema*, there is usually a bringing up of purulent Matter at the Mouth. The first of these is frequent enough, and the Blood, that is got out of the Veins, is sometimes voided with a gentle Cough, and sometimes without: for the sanguiferous Vessels are divided into many small capillary Branches, through which the Blood is carried very rapidly, and so, because of its Diarrhœa, and too great Effervescence ensuing thereupon, may open the Mouths of the Arteries,

make a Breach, and dissolve Continuity; which being done, Spitting of Blood must of necessity follow. Besides, this Disease is the Author of many bad and tedious Diseases, and proves the beginning of a Consumption, *Empyema* and *Vomica*. Blood indeed may be voided at the Mouth, and come from several Parts; namely, from the Head, Nose, the inside of the Lips, Gums, Palate, Tongue, *uvula*, Jaws, *aspera arteria*, Tonsils, Lungs, Branches of the *aspera arteria*, Weasand, Stomach, Liver, *Pancreas*, Spleen, Womb, &c.

Names.

But we are here minded to treat of that voiding of Blood, which proceeds from the Lungs and Breast, which *Hippocrates* in *Aph.* 29. s. 3. calls *ἁμαλὸς πύξις*, Spitting of Blood, and *Galen de comp. med.* *ἁμαλὸς ἀναγὰς*, Voiding of Blood; others call it *cruenta sputatio, sputum sanguinis, hæmoptoica passio, cruenta per os rejectio*.

Difference

Difference.

Here we must observe carefully, and distinguish well, whether formerly the Patient used to bleed at the Nose: For from thence it often runs into the Stomach, Throat, yea, and sometimes into the Lungs, but then it grows thick and turns to Clods. If therefore any one spit Blood, and used not to bleed at the Nose, it must necessarily come from some Part below, which may be known by particular Signs, as may hereafter be seen in the Diagnosticks. For the differences of voidings of Blood must be duly observed; the Blood owzing into the *Larynx*, does after a little titillation in the *aspira arteria*, arise into the Mouth without coughing and insensibly; but if the evasation be out of the Lungs or other Parts of the Breast, then frothy Blood is voided by Coughing; if out of the *plexus* of the Vessels, then it is voided in less quantity, at certain times, and mixt with coagulated *Serum*; if out of the Stomach or *Pancreas*, then there is squeamishness, and it is voided as it were by Vomiting, without Coughing.

Empyema.

An *Empyema* is called an Apostem, or corruptly an Imposthume, and differs from spitting of Blood, because in an Apostem mere *Pus* is brought up without violent Coughing, in the other pure Blood. Again, an *Empyema* is bred privately in the Lungs or in some other Part of the Breast, and neither it nor a *Vomica* show themselves, till they kill the Patient, as *Willis* Sect. 1. cap. 2. de *pulmonis Vomica*, has observed, as well as I,

Likewise an *Empyema* usually follows a *Peripneumony* and Spiting of Blood. So we have known several, who, upon the breeding of a *Vomica pulmonis* insensibly, its ripening and then breaking, have spare abundance of fetid *Pus* for several Weeks, yea Months, and at length being thereby weakened have died Consumptive. For when a Suppuration is raised by an Inflammation about the *Pleura*, and at last the Apostem breaks, the *Pus* that falls into the Breast, breeds this Disease, and by long continuance there, it stinks filthily, and therein differs from the Spittle which is raised in a *Peripneumony* or a Consumption. This is confirmed by what I lately observed in an Imperial Soldier, who grew *Empyemick* after he had been shot through the Breast; during the Disease, he was troubled with straitness of Breast, and difficulty of Breathing, and also with Spiting; when he was near Death, he rattled exceedingly. When we opened his dead Body, in the Cavity of the Breast, and indeed on that side where the right Lobe of the Lungs is, we found eight pounds of ichorous, putrid and stinking Matter, which was not yet turned into *Pus*. Therefore one might very well call this a watry *Empyema*. This also there was observable, that one Lobe of the Lungs, through which the Bullet had passed, was healed to a wonder in six days, as if it had been a new piece of Lungs; but the other Lobe continued still hurt and perforated, undoubtedly because of abundance of putrid Water, that stagnated there.

Vomica.

By a *Vomica* they mean Blood insensibly gathered, not in the substance of the Lungs, but in a membranous Bag, at length turned to *Pus*. *Sylvius* takes that for a *Vomica*, in which the glandulous Tubercles, be they greater or less, together with the Lungs, turn to *Pus*, and are contained in a Membrane of their own, all which by degrees tend to suppuration, and then to Consumption.

§. 2. *Part affected.*

THE Part affected in this ternary of Diseases, is sometimes the *Parenchyma* of the Lungs, sometimes there Vessels, and sometimes the Membranes or Vesicles of the Lungs, which are either opened, or burst, or eroded, or so rarefied, that in an *hemoptysis* (in which we take every sanguiferous Vessel for the Part affected) the thinner and more serous part of the Blood may owz. through the Coats, also the Blood Vessels about the Ribs. And in an *Empyema* and *Vomica* you shall ordinarily find purulent Matter about these Parts, in such as have died of this Disease.

§. 3. *Diagnostick.*

NOW that we have considered the Part affected, let us hasten to the Diagnostick; where first of all we must take notice, That Signs of a sharp Blood always precede this Disease, that is, Heat, Thirst, Itching, and other such things. If the Spitting of Blood proceed from the Gums and Mouth it self, the Blood is of a fresh co-

lour, but little in quantity, and without Coughing; the Solution of Continuity is here often manifest to Sense. If it proceed from the Jaws or *aspera arteria*, then the Blood is got up by Hawking, not by Coughing; and Solution of Continuity appears in the said Places, if the Tongue be depressed with a *Spatula*, or any other chyrurgical Instrument. If Blood come from the Head, it has first been heavy and aked, there has been a tingling of the Ears before, and at present there is an Effervescence or Commotion of Blood, as you may see in Fevers. I my self in a Quarran Ague often spare a little Blood, without any suspicion of a Consumption; for in the Hawking it up, one may easily know, Whether it come from the Head or Lungs. If it come from the Lungs, then the Blood is frothy and florid, and then it is always brought up with a Cough, but without pain, and that at Intervals. Whenever Blood is voided upon the breaking of a great Vein or Artery, it comes in great quantity, without any precedent Cause observable, and is forced up as it were by Vomir, so that sometimes whole Basons are filled with it. But if it come from erosion of any Vein in the Lungs, which is often caused by a sharp Humor dilacerating the cingent Membrane, then it comes by degrees at certain Intervals, and not in such abundance, unless, as was said before, some great Vein or Artery be eroded, for then it is voided in abundance, and usually kills the Patient, as I observed in two Maids. If the Blood proceed from the *aspera arteria*, it comes with a little Pain and Cough, it is brought up red and hot, and but a little of it. But if it come from

from the Stomach, it is without Coughing, and rather by Vomiting, and it would be in great quantity, but that it is brought thither from other Parts, and is kept there a while, by reason of its grumescence, before it be voided. If it come from the Liver or Spleen, or lower Belly, a dull Pain uses to afflict those Parts, and the Blood is brought up by Vomiting. It is a very hard task to distinguish from which of all the foresaid Parts the Blood doth come, but here the difficulty is surpassing: for the difference can never be exactly known by certain Signs. This indeed I think is evident, That Blood discharged into the Stomach, by the Spleen and *Pancreas*, is grumous and enclining to black; such as a Citizen of *Hanover* voided, which being so qualified the Physicians there present took for the *parenchyma* of the Spleen, ridiculously and ignorantly enough, blaming the Laxity and Distension of the *vasa brevia*, through which this *viscus* might come to the Stomach: but since this Citizen a little while after was troubled with the like Excretion of Blood, and notwithstanding is yet alive, and troubled with the Spleen, undoubtedly we must judge otherwise. Now and then also Blood is spit up, through the opening only of some very little Vein, as it happens in a hot course of Diet, and then it is voided in a small quantity at the beginning, and it is thin and red. But if it come up stinking, mixt with *Pus*, and that with a violent and frequent Cough, it is a sign of a Consumption, concerning which see the Chapter foregoing. As therefore all voiding of extravasated Blood by the Mouth is easily ob-

vious to sense, so to know certainly the place, whence it comes, is a hard task, and few there are,

quos equus amavit
*Juppiter, ac ardens euexit ad aethera
virtus.*

These were the Signs of an *hemoptysis*. now we will briefly consider those of an *Empyema* and a *Vomica*. An *Empyema* or Suppuration is so called from the *Pus*, in which abundance of purulent Matter is brought up by Coughing, there is difficulty of Breathing, and it usually follows a Pleurisy, or Quinsy, or *Hemoptysis*, or a Wound of the Breast or a Blow. This cut-throat carries his Weapons concealed, hoarseness also attends it, Patients find an oppression in their Breast, a Fever never leaves them, the Pulse is quick, the Appetite destroyed, the *Pus* that is voided, stinks (wherein it differs from the *Pus* of consumptive Persons) the Eyes are hollow, the Cheeks red, especially three hours after eating, the Nails are crooked, and sometimes the Feet swell, which and other Signs of *Empyemick* Persons *Hippocrates* l. 2. de *progn.* does excellently delineate. In a confirmed *Empyema* a fluctuation of the peccant Matter and a sense of trouble upon the Motion of the Body is perceived: for the Patient cannot well ly on both sides. Sometimes he can get no sleep, but is thirsty and disquiet all over his Body. The Signs of a *Vomica* are commonly the very same with these; yet at first they are private, so that Physicians can have only some suspicion. But always, as I said before, Acrimony of Blood preceeds these

Diseases, which may be gathered from many Tokens.

§. 4. Causes.

AND now the Causes come under our consideration, the knowledge of which is most necessary for Physicians: because when they know these, they can better give Remedies good against the Disease and its Causes. *Fernelius* says excellently well, *L. 1. Pathol. c. 11.* Diseases without the knowledge of their causes can neither be prevented, nor successfully cured. But the search of them is here very intricate, and clouded with many difficulties. Because among so many different Judgments, a Man knows not whose to follow.

The old *Galenic*s Opinion about the Cause of an *Hæmoptysis*, or Spitting of Blood, is, That generally it is caused by too great quantity, and Acrimony of Blood, whereby, they conclude, the Mouths of the Vessels must necessarily be opened. And they prove this by the good Habit of Body, which breeds Blood, immoderate use of hot Meats and Wine, suppression of the *Menses* and the like. And they will have this Blood to come out, either by *anastomosis*, or *diæresis*, or *diabrosis*, or *diapedesis*. An *anastomosis* may easily be caused by aundance of Blood, or by its thinness and watriness, as by all things which kindle and enflame the Blood, such as are running, leaping, riding, and the like violent Exercises and Motions. Wherefore the Ancients do blame violent Coughing, laborious Vomiting, loud Crying, Anger and other Heats of Mind and Body, as remote Causes of this Disease: for they say, That

by these things the Blood may easily be heated and attenuated, the Orifices of the Vessels may thereby be opened, and so it may be extravasated. The Ancients understood it to be a *Diæresis*, when the Vessels are perforated, cut, contused or burst, which Solutions of Continuity are called Punctures, Cuttings, Contusions or Ruptures. By a *Diabrosis* they mean this case, when the Vessels and Lungs are eroded by any sharp things, whether Humors, Meats, Medicines, Drink or a salt Catarrh fall from the Head upon the Organs of Respiration. They mean a *Diapedesis*, when the Coats of the sanguiferous Vessels are so rarefied, that a thin Blood, such as a cholerick, and sometimes a serous or watry one is, may easily owze through them; but they confess that spitting of Blood seldom comes this way. Their cause of an *Empyema* is *Pus* filling the Chest, and doing much harm by its Stench and Acrimony: they hold, it often comes from the breaking of some preceeding Apostem, of a Quinsy, Peripneumony, &c. And they say it may be done thus; namely, if these Diseases end in suppuration, and the *Pus* be poured into the Cavity of the Chest, or if crude Swellings be by Costion turned into a *Vomica*. They hold also, That an *Empyema* may be caused by a Catarrh falling upon the Breast, and not purged by Spitting within fourteen days, believing also that Matter may flow from somewhere else, as from the *Abdomen*, and may get thither by blind Passages; and they have this reason for it, That in Hydropick Persons the same *Serum* finds a way to the Chest, and then the whole Breast swims with serous Humors,

as Coughs in Dropsies and voiding much Water do testify. Then by a *Vomica* the Ancients understand a Tubercle and Abscess lying some where in the substance of the Lungs, in which case the peccant Matter is enclosed and wrapt up in its proper Pellicle by Nature (who is a provident Mother) lest the sound Part should be infected, till the sharp Humor eat through the Pellicle, and pour the Matter contained in it into the Breast, and so cause an *Empyema*, a Consumption, or sudden Death.

§. 5.

NOW let us consider the Chymical genealogy of this Disease. They blame in this case, sharp, corrosive Salts, destitute of any mixture of more benign and mild ones, which predominate in the Vessels of the Lungs, corrode the tender Membranes of the pneumonick Veins or Arteries, or open them, and so produce pernicious Inundations of Blood. For, that such sort of Salts are actually in Bodies, they demonstrate by several Experiments, which my Business will not allow me further to insist on. But as to an *Empyema* and a *Vomica* they maintain that such kind of Ulcers come, when a separation is made of the Salt of the internal Liquor, or of the Balsam which preserves each Part from Putrefaction, adding, That in the breeding of *Pus*, the Sulphur, which should be coagulated, is kindled and dissolved.

§. 6.

Helmont wholly ascribes the Cause of these Diseases, to the Pulmonary *Archæus*, enraged either by the Blood, being burthened both in quantity and quality, or by *Pus*. Now if the Excrement be not expectorated, but hardened, then occasion is given to an occult *Vomica* or a Consumption, as *Helmont's* zealous Disciple, *Grambs* in *Arbor. ruinos.* l. 2. c. 1. §. 9. and *Helmont* also himself in *tr. delirament. catarrh.* p. 275. do say. At length the Air does further dry the opplating Mucilages, after which new products appear, which in process of time contract Acidity, Acrimony and Malignity, whence come these doleful cases, *Vomica*, Erosion of the Vessels, Spitting of Blood, Consumption and Death.

§. 7.

Ullis places the Cause of these Diseases in the Acrimony; Dyscrasy, and too great Effervescence of the Blood, which open both the pneumonick Vessels and the tracheal Arteries, and so dissolve Continuity: for the Blood being sharp, and gathered principally about these Parts, may of it self easily open the Mouths of the Arteries, and eat through them, and so cause a spitting of Blood. And sometimes Blood that is too thick and apt to coagulate, when it cannot readily be received by the Veins, must of necessity run out, as we see it does in the Scurvy, pestilential Fever, Small-Pox and Poyson. And thus spitting of Blood arises from the Bloods being either too thin or too thick. An hereditary

tary indisposition of the Lungs contributes very much to this Disease, according to our Author. Among the more remote causes he reckons the suppression of the *menstrua* or of bleeding at the Nose, or any other way, excess of Heat and Cold, &c. for when the Blood is too hot, and when transpiration by the Pores of the Skin is stop'd, then it rages more violently, and often bursts out of its Vessels, upon which presently there follows an *Hæmoptysis*. So if it turn into purulent sharp Matter, then an *Empyema* or *Pomica* breeds.

§. 8.

Sylvius, the Glory of *Leyden*, blames the breeding of too much fluid Bile in Spitting of Blood, which is too sharp; and when mixt with the Blood, causes a greater effervescence, and opens the sanguiferous Vessels of the Lungs, whether they be opened by a too great distension of the Vessels by the abundance, rarefaction or retardation of the Blood, or by wind, or by confusion with some hard or sharp thing, or any other way. And in a *Pomica* and *Empyema*, he blames the great quantity of Blood, falling out of its Vessels into the cavity of the Chest, and because of its Acidity there turned into *Pus*.

§. 9.

Cruces and his followers, think, that this Inundation of Blood can arise for no other reason, but that the subtil Matter has communicated a different Disposition to the Blood; for all preternatural Effervescences and Commotions of the

Blood arise from that. Moreover they take all Particles, which either smite, or corrode, or penetrate, or provoke, and so make holes and dissolve Continuity, when they are enrag'd with this preternatural Effervescence, to be the cause of this Disease. In a *Pomica* and *Empyema* they will have purulent Matter to be the cause, and they derive the dull pain, which afflicts People in this Disease, from the Mals of Corruption, that lies upon the Nerves, which are but very few in the Lungs.

§. 10.

NOW having considered other Mens Opinions about the causes of these Diseases, that the case may be the more clear, we will give you our own. We ascribe the cause immediately to the violence of the Spirits, which hurries the Blood about, and extravasates, when it is too sharp. Our Body is like a Water-work or Engine, which is moved by the Liquor within it, i. e. the Blood, as the excellent *Reiseli*us chief Physician of *Wittenberg*, my ingenious friend, who has erected an eternal Monument to his Name, by exposing his *Humane Statue* to the Learned, has demonstrated this Motion to the Eye. The perfection of the Engine, and the Motion of it are good or bad, according to the diversity of this Blood, arising from the variety of Fermentation and Particles. Now the intestine Motion and Agitation (which we call Fermentation) of the Particles, that make up this purple *Nectar*, is governed by a twofold Salt, an acid and a volatile *Alkali*, by the concurrence of which being dissolved, and there acting

acting one upon the other, the rest of the Particles also are too much moved and agitated. For the mutual Action of those two Salts one upon the other, may be seen with our Eyes, and is manifest enough. When this is kept within due bounds, all goes well, but when it is disorderly, then alas, what impetuous effervescences, what storms and inundations immediately fall upon our Bodies! But how calm, how safe is all, when the Blood is appeased and amicable, when the vital Ferment in the Heart, impregnated with vital Spirits, is in good order! This Ferment, the excellent *Estmullerus* shows to be radicated in that point of the Egg, which is salient, because of the saline volatility of the animal Spirits: And he proves, That as in the Kitchen of Chylification the chief Cook is of an acid volatil Nature; so in the Work-house of Sanguification and Fermentation renewed in the Blood, the Operator is a volatil and luminous Salt. And, to say all in a word, I am of the very same mind with *Estmullerus* before said, That the disposition of the Blood depends upon the condition of the two Salts, a volatil Acid and *Alkali*. For the saline virtue raises that Fermentation and Circulation of Blood, as Baker's Leaven raises the Dough and makes it porous. I thought fit, by the way, to say something, how the Fermentation of the Heart is performed in a natural state, that it might be better understood how it is spoiled in a preternatural one, since contraries compared illustrate one another. These things therefore supposed, it is plain, That the Blood may be made either too sharp or

fluid, because the fermentation is spoiled, or through some defect of one or the other Salt. It is therefore most assuredly true, That spitting of Blood, if not always, yet for the most part, proceeds, either from too great fluidity of Blood, or abundance of Serum, or from a Salt both volatil and sharp, which not only puts the Blood into fusion; but rends, pierces and ears through the containing Vessels, and by its sharp Particles in process of time, tears the little Fibres of the Arteries and Veins more and more, and makes further breaches. Continuity also is dissolved by too great Motion of the Blood, (whence forever that proceeds) whereby the Blood bearing too impetuously on those or these Fibres, and they not giving way, breaks the texture of them. Continuity also is dissolved, when the Blood is carried violently at one push through Vessels that are of a tender frame, or too strait for so much Blood, and dilates the Fibres, and so it gushes out at the breach. Without doubt therefore we may reckon the Enemy's head quarters to be about the pneumonick Vessels, whence the Blood, stimulated with these Provocatives, and got out of its enclosures, enters the cavity of the Lungs chiefly, like a head-strong Horse, and since it raises trouble there, irritates the Fibres and solicits them to eject it: If it be not timely discharged thence, it cannot otherwise chuse but grow sharp by continuance there; and so the Spirits, that should temper the rest of the Particles, must be dissipated, which is the reason why, upon the dissolution of the Sulphur also by the great acidity, that destructive

stench

Stench arises in an *Empyema* and a *Vomica*. And in what Diseases an Acid begins to prevail, the volatil Particles ever and anon flying away more or less, and heterogeneous ones thereupon coming in their room, *Empyema's* and other Abscesses must arise thence. For it is manifest from what we said before, that Pus is bred of a medley of several things, which by continuance do contract still a more and more acid Ferment, and upon combination of this with the Sulphur, it at length grows white. We, as well as *Sylvius*, *Helmont* and *Paracelsus*, do blame an Acid in Pus; and Blood is not concocted into Pus, as the *Galenists* were of opinion: For no Man dare say, That red Blood taken by venesection, though never so much concocted or boiled by the strongest fire, will ever turn to a white Matter, such as Pus is. Therefore, to be brief, we derive an *Empyema* and a *Vomica* from sharp and acid Blood, turned into Pus, and gathered in the Cavity of the Breast.

§. II. Prognostick.

Now in order we come to the Prognostick, where we will search what hopes there are of the Patient's safety. But we will carry *Seneca's* advice along with us, *lib. 6. de benef. cap. 16. That a Physician ought to be concerned for his Patient, and for the Credit of his Skill, which undoubtedly is at stake, when an unhappy Prognostick puts the Physician to the blush.* All voiding of Blood therefore upwards, according to *Hippocrates* *l. 4. aph. 25.* is reckoned bad; so he observes, That this Disease is familiar to young People, *sect. 3. aph. 29.* And

in another place he mentions, That frothy Blood coughed up, comes from the Lungs, *sect. 5. aph. 13.* An Ulcer of the Lungs has much danger in it, because Suppuration and a Consumption must certainly be expected: for the Lungs are very difficult to heal, because of their continual Motion. Moreover in this spongy Part, such as the Lungs are, the corruption not only clings faster, but it easily passes out of one Vesicle of the Lungs into another; wherefore it must needs be, That the Lungs, so constituted, must day by day be more and more exulcerated, Respiration hindred, Heat encrease, and the Body consume. According to *Juvenal Sat. 6.*

———— *Grex totus in agris
unius scabie cadit & porrigine porci.*

For it is not so bad, if upon the breaking of an Artery or a Vein in the Lungs, the Blood be voided presently; as if it fall upon the substance of the Lungs, be kept there, and so cause an Inflammation, and then after long continuance, that is, the spirituous Particles flying away, if it should putrefy and at last corrupt and exulcerate the substance of the Lungs. There is imminent danger from the breach of a great Artery in the Lungs, upon which the Heart must necessarily be suffocated by the abundance of evacuated Blood. For sometimes the Blood is poured out in such plenty, That even whole Basons, and great Vessels are filled with it in a short time, and the Patient, (who as he in *Virgil*,

———— *crassum vomit ore cruorem.*)

In a moment pours out his Soul, with the Blood its seat, as appears from the German *Ephemerides*, Ann. X. p. 309. Spitting of Blood following spitting of Pus threatens danger: For it betokens an Ulcer in the Lungs, of which abundance have died, according to that of the Poet;

*Cernis ut è molli sanguis pulmone remissus
Ad Stygias certo limite ducat aquas.*

But if the Blood come out of the Breast, and it be agreeable to the Nature, Age, Climate, Constitution, and Season, the Disease is not so dangerous: for in young Women I have observed spitting of Blood, upon the suppression of the *menfes*, which ceased upon their coming. But spitting of Blood for a continuance, and which will not yield to proper Medicines, turns to a Consumption, as lately I observed in a Man twenty Years old, who was troubled with spitting of Blood, and then with heaviness of Heart, a Cough, and other very ill Signs, she went into Consumption. But if a valetudinary or scorbutick Person spit Blood, the case is more dangerous, than if one stronger and not scorbutick should do so. In a word, the Wounds of the great Vessels of the Lungs are usually mortal, but Wounds of the less, and of an *Empyema* are often cured, as *Sylvius*, c. 2c. l. i. §. 44. testifies. Nevertheless we need not always fear spitting of Blood, since now and then it preserves the internal viscera, as the Liver, Spleen, &c. As one says, spitting of Blood is often critical, and sometimes it delivers from great Diseases. Vomiting of Blood also with-

out a Fever is wholesome; but with a Fever it is accounted a pernicious Sign, according to *Hipp. sect. 7. aph. 37*. But a Hiccough or Convulsion after Bleeding portends ill. Blood which owzes out of the *trachæa* often portends no ill. Also a violent Head-ach according to *Hippocrates* is sometimes cured by bleeding at the Mouth. Thus much of the Prognostick in an *hemoptysis*.

Our divine old Man reckons up many unlucky signs in an *Empyema*, that is, that it usually kills in seven days, and those that escape, become purulent. But they that are empyemick after a Pleurisy, ought to be purged within forty days after the breaking, and then they are safe, otherwise if it stop, they grow consumptive. If they be feared or cut, and the Pus run pure and white, then they escape. If the Fever abate not, but is less in the Day and more in the Night, if there be much Sweat, and desire to Cough, but nothing brought up, if the Eyes be hollow, the Cheeks red, the Nails crooked, Hands hot, if the Feet swell, if Loathing and Squeamishness afflict any, if Pustles arise all over the Body, such are suppurated, and it is a Sign of sudden death. Empyemick Persons on the mending hand, when they are almost purged, and seem quite out of danger, if they spit stinking stuff they relapse and dy, according to *Hippocrates in Coacis*. You may also reckon it a fatal Sign, when the Pus colours Iron as if it had been in the Fire: for that betokens death, because it denotes extreme Acidity and Extinction of the volatile Spirits. So, if in this case there be a hectic Fever, difficulty of Breathing, an oppressive pain

In the Breast, a weak and frequent Pulse, with cold Sweats, a waiting Flux, and frequent Faintings, then the Patient is gone. According to *Hippocrates* they are out of danger, in whom, the same day that it breaks, the Fever ceases, their loathing of Meat, and their Thirst leave them, so that they go little to stool, the Pus is white, smooth, all of one colour, without Phlegm, and is brought up without pain, and with a gentle Cough, also all the other Symptoms, which were violent at first, abate a little: for then a recovery may certainly be expected, because they are Signs of Health, which quickly free a Man of his Disease. But if the excrementitious Stuff be not expectorated, and harden in the narrow winding Passages of the Lungs, it is a sign of an occult *Vomicæ*, and of a Consumption.

§. 12. Dietetick Cure.

THE Nature of the Disease; and the Signs of it, being found out, according to the best of our skill, we think meet to allot some of our pains to the cure. The alteration of Diet is a thing of great moment in this case, 2. *aph.* 45. Therefore we must seek relief from thence. The Air then must be temperate; rather inclining to Cold; on the contrary, a hot one must be avoided, because of the aculeate and subtil Particles of Salts, which it carries, that are injurious to the Lungs and their Vessels; and an intense cold Air may be put in the same predicament, which alone may be sufficient to make an Ulceration and Solution of Continuity by its rigid Particles and stagnation. Consult *Willis* in his Chapter of a Consumption; The Patient

must also avoid the Raies of Sun and Moon and a South-wind. But in an *Empyema* the Air must incline to driness. The Meat must be cooling, and endued with an emplastic or glutinative Faculty; that is, it must be viscous and glutinous, such as Milk, Barly-Cream, Calves-feet, Kids-feet, Ising-glass, Rice-milk; and *Simon Pauli* in his *Quadripartit. Botan.* p. 232: highly values such a sort of Grewel made of Starch and Wine. In an *Empyema* dry things are proper, such as Pigeons, Partridge, Rabbits, Small-birds, Saxatil Fish, Creysfish, &c. Here also Pine-Nuts (recommended of old to such as spit Blood by a Table hung up in the Temple of *Asculapius*) are often made use of. Sowrith Fruits are given to such, Prunes, Pears, Quinces, Medlars, &c. to which purpose we recommend Lettuce, Endive, Cichory, Daisy Flowers and the Herb, &c. So we reject Meats hard of Concoction, sharp, salt, peppered, spiced, very sweet, such as have an occult Acid in them (as all sugared things have) which are very hurtful in these Diseases. The ordinary Drink must be small Beer made of Oaten Malt, well boyled; the extraordinary must be a small red Wine, Mede, Barly-Water, Emulsions of Almonds, Goats-Milk (by which alone *Trallianus* brags, how he cured one of spitting of Blood;) on the other hand a Man may not touch any rich strong Wines, whether Rhenish or Spanish. In the animal Function Sleeping and waking must not exceed the bounds of Moderation. Too much Motion, especially of the Breast, shouting, laughing and singing must be avoided: for no Man will deny, but that an incurable Rupture of the Vessels of the Lungs may be caused thereby; also

also leaping, playing at Ball, riding on Horseback, or in a Coach, &c. may contribute to it, all which things are acted with too great commotion, and may force out the blood. The Excrements of the Belly must be voided either by Nature or Art every day; so the *Menses*, bleeding at the Nose and Hemorrhoids, must have their due course. Let the Patient keep himself from all violent *Passions* of the Mind, and rather compose himself. But above all things let him avoid Anger, so the Daughters of Anger, brawling, contention, frettings, &c. must be avoided. For all these things according to the great *Sylvius* do pour a Volatil Bile into the mass of blood by the Hepatick Duct, found out by him, and so cause a greater effervescence of the blood, which first occasions these dire effects. But according to us Anger makes the Animal Spirits rebellious. Venus and Bathing are nought for the same reason, because they stir the blood, and put it in a rage, which often kindles these Diseases.

§. 13. Pharmaceutick Care.

Now I am minded to go to the other part of the Cure, where-in I shall observe my old course, and steer by the Compass of the Ancients. They in the fit of an *Hæmoptysis* open a vein in the Arm, perhaps twice or thrice in a day, or in tender people, they bleed in the foot, especially, if it arise, as it often does, from the suppression of the *Menstrua*. Then they divert the motion of the blood, by cupping, ligatures, leeches, and frictions. These things premised, they

cool the Blood or Bile with Preparatives, which with a little Astringion restrain the fluidity of the Blood; such as Syrup of Sorel, Roses, Myrtles, Quinces, Juice of Pomegranates, Water of Sorel, Roses, Plantain, Purslain, &c. So, as they see occasion, they carry off pituitous, and cholerick and sharp humours, mixt with the blood (which are causes oftentimes of a breach in the Veins, sometimes of erosion, and by consequent of spitting blood) by proper Evacuators, such as Rhubarb with Myrobalans boyled in Plantain water; also *Cassia* new drawn, Syrup of Roses, stewed Prunes, and such gentle things. After these things they use Medicines to stop the fluidity of the Blood and the violence of the Bile, and also to incrassate its thinness; which they call binding Medicines, such as are Trochiscs of *terra sigillata* given in Plantain water, Syrup of Pomegranates, Myrtles, Quinces, Conserve of Roses, burnt Harts-horn, all the *terra sigillata*, Bole Armenick, *Balaustia*, Mastich, Gum Tragacanth, Arabick, Plantain, Purslain, Knot-grass, *diatragacanthum frigidum*, red Coral, Juice of Plantain, Barberries, and many more things that are well known, of which Medicines may be made agreeable to the Palate of the Patient. In the beginning they will not use Narcoticks; but when they have used other things to no purpose, and the Disease grows upon them, they fly to Narcoticks as their last refuge, but then the Patient must have strength. And if they apprehend by the bloods being black and clotted, that it falls from the Head upon the Lungs, they do not give Astringents inwardly, but rather order such

such Medicines as dissolve and discharge extravatated and coagulated blood, such as Mather, Crabs-eyes, *argentum rubrum potabile*, *sperma cetti*, &c. In an *Empyema* and *Vomica*, if suppuration of the matter gathered in the breast cannot be stoppt, then they promote it by Emollients and Ripeners, to which end they use divers Medicines inwardly and outwardly. And among these they reckon for an *Arcaenum* the Juyce of ground Ivy, three Ounces of which with two Ounces of Juyce of Horehound they make into a Lohoch, and add of Frankincense, and Myrrh each one drachm, *Diapenidium* half a drachm, and so mix them, then they give water of Mallow and Hyslop. Externally they make use of Plasters and Cataplasms of Figs, roots of Marsh-mallow, Raisins, Flower of Linseed, Fenugreek and other things made up with Emollient Oyls, of which *Riverius*, who is as good as all, discourses very accurately. Their last Remedy is tapping the Breast, which some of them do between the third and fourth Ribs, others between the fourth and fifth, reckoning from the lower upwards, by a potential or actual Caution, and so by degrees evacuate the matter contained in the Chest insensibly, and then they absterge by certain Decoctions taken by the mouth and injected into the wound, by which Operation almost all the Ancient Practitioners boast how they have cured several.

§. 14.

HAVING done with the Galenical Cure, we will now go to the Chymical. And the Chymists

prescribe such Medicines as take off the sharpness of the Salts, which open the Veins and Arteries, smooth the parts, and restore the natural Balsam to the Blood; such as are all sulphureous and antimonial Balsams, especially the milder sort, which are of great use in Ulcers or Apostems of the Lungs. *Paracelsus* himself *Chirurg. minor. libr. 2. pag. m. 46.* confirms this, where he says, That Antimony yields an excellent Medicine for Ulcers, for such a mercurial Liquor contains more virtue in it than all Pearls, &c. because Gold, which is accounted the highest Secret and Remedy, receives its Cure and Health from it. They also use other Diaphoreticks. Exclusion of Pus in an *Empyema* is promoted according to their Method, by Oyl and Spirit of Turpentine mixt with Flowers of Sulphur. For *Paracelsus* calls Turpentine the external Balsam, because of its great healing virtue; yet there are some who prefer Spirit of Vitriol before it, namely because it cleanses purulence, but it must be used with much caution. Thus *Paracelsus* boasts, how he cured a noble Woman of an *Empyema*, by giving her Oyl of Sulphur in Sow-bread, Bawm, and Betony-water. So *Crollius*, a Paracelsist, greatly commends Spirit of Tartar and Salt, for removing of these Diseases. He writes also, that Salt of Corals, Oyl of Cinnamon, and Cloves, Treacle-water, but especially *saccharum Saturni*, are Remedies against putrefaction: and where the case is desperate, he gives three or four Grains of *pulvis sperniolae compositus* in some Water of Shepherds-purse.

§. 15.

§. 15.

HELMONT and his followers in spitting of Blood take the following course. First the Patient must keep himself quiet; and that the Blood may not run so fast to the Lungs, *Grembs*, a true disciple of *Helmont*, advises strong ligatures on the Hands and Feet; and to stop the Flux of Blood he commends Syrup of Corals mixt with *crocus Martis* in the manner following;

Take of Syrup of Coral two Ounces, *Crocus Martis* two Drachms. Mix them for two Doses.

The same Person commends Rice boiled in Water or Milk, wherein Steel has been quenched; and for the ordinary Drink he commends Emulsions of Almonds; and for the extraordinary, Quince-Wine mixt with Steel-Water. At length, when the red Spitting is stoppt, and the *Archeus pulmonaris* (as his Phrase is) the author of Spittle, makes mucous Excrements, then he gives Milk with Steel quenched in it, to appease the furious Spirits, and deterge the Excrements; it must be taken five hours after Meal. But Milk must not be drunk constantly, because it nourishes too much, and fills the Breast with Phlegm. But in a *Vomica*, if the Pus turn sowre, and the Blood apostemize, those things are proper, which we mentioned before in the Chapter of a Peripneumony.

§. 16.

NOW we will proceed to tell his, who, in an *Hæmoptoe* of the Lungs, has these curative Indicati-

ons. 1. Presently to stop the Flux of Blood. 2. To heal the Solution of Continuity that is left in the Lungs, without a Consumption. Now Medicines stop the Flux of the Blood (so that it runs not to the Part affected) which diminish the quantity of the Blood, and check its Effusion, and retard its too violent Motion; such as are various Juleps, for instance, this following;

Take of Water of Water-Lily, Plantain, Purslain, Oak Buds each three Ounces, Blood-stone, Dragon's-Blood each half a Drachm, Sugar-Candy as much as will sweeten it.

To this end he highly commends a Solution of Common Vitriol or of *Mars* in fair Water, used either outwardly or inwardly to stop all manner of Bleeding. Venesection also, Ligatures and Frictions are good; and after all these things have been tried to no purpose, he gives gentle Narcoticks, especially Diacodieres, because by stopping the Motion of the Heart they abate the Fermentation of the Blood. Then for healing up the opened Vessels, he prescribes divers astringent, glutinating and healing Medicaments, in form sometimes of a Lick, sometimes of a Decoction, sometimes of a Powder, sometimes of Pills; This is a good Prescription for making a Decoction of Vulneraries and Balsamicks;

Take of Leaves of Mouse-ear, Plantain, Sanicle, Wild-Daisy each one handful, Flowers of red Roses half an handful, French-Barly half an Ounce, Raisins one Ounce, boyl them in four Pints of Spring
X Water

Water, add to the colature of Vitriol of Mars half a Scruple, Syrup of Coral what is sufficient. Mix them.

Another Prescription ;

Take of Dragon's-Blood one Drachm, white Poppy Seed half an Ounce, Blood-Stone, Crabs-eyes, red Coral each half a Drachm, Sugar of Roses one Ounce. Mix them for a Powder to be taken at several times.

The Drink must be a Decoction of China and Sarsaparilla mixt with other pectoral things. In an *Empyema* he advises cutting or opening the Side, and in such as are fearful and tender a Cautey between the sixth and seventh *Vertebra*; when a hole is made, a silver Pipe must be put in, by which the Pus may be let out of the Breast at several times, lest it stink, and the Patient might lose his Strength. After these things are done, some traumarick cleansing Liguor may be injected by a Syringe. As for Internal Medicines he commends divers vulnery Decoctions, or half a Drachm of the following Powder to be given twice a day.

Take of Powder of Crabs-eyes two Drachms, Flowers of Sulphur one Drachm, *Sal prunelle* half a Drachm. Mix them. Make a Powder, or make them up with a little Turpentine into Pills.

The rest of the things which must be given in this Disease and in an Apostem of the Lungs before cutting, are in a manner the same, which we mentioned before in this Author's Judgment of a Peripneumony, whither I refer my Reader, and now we have done with *willis*.

§. 17.

Sylvius, to allay the Heat of the Blood, which is often violent in this Disease, uses acid and austere things. namely Housleek, Plantain, Sorel; so he likewise commends spirituous oily things, to take away the Acrimony of the Humors, and sometimes, if there be occasion, Opiates. Then for healing the broken Vessels, he commends his well known Mixture which follows ;

Take of Water of Plantain two Ounces, Cinnamon two Drachms, distilled Vinegar half an Ounce, red Coral prepared half a Drachm, Dragon's-Blood half a Scruple, *laudanum opiatum* two Grains, Syrup of Myrtles one Ounce. Mix them.

This Mixture taken a spoonful at a time will cure most breaches of the Vessels. For the same end he orders Bleeding either in the Arm or Foot. So for correcting the salt or acid Humors, that flow either from the Head, or from any other place, he commends Opiates and mild Aromaticks. But in a case, where the Spitting of Blood proceeds from the Inflammation and over-thinness of the Blood, whereby the pneumonick Vessels are stretched till they break, you must presently bleed, and temper the Blood with cooling Juleps. Here is a Receipt or two.

Take of Barly-Water twenty Ounces, Syrup of Violets two Ounces, Oyl of Sulphur, as much as will give it a grateful Acidity. Or,

Take

Take of Seeds of Melons, white poppy each alike what is sufficient, with Water of Plantain, Colts-foot each what is sufficient. Make an Emulsion, and sweeten it with Sugar-Candy, what is sufficient.

In a confirm'd *Empyema* the alteration of Blood into *Pus* must be promoted, which emollient and maturing Medicines will do, such as Roots of white Lily, Leaves of Marsh-mallow, Orache, Mercury, Linseed, Fenugreek, also divers Oyls, Fats, &c. This may serve for a Cataplasim.

Take of Root of Marsh-mallow one Ounce, white Lily half an Ounce, Leaves of Mallow, Marsh-mallow, Pellitory of the Wall each half an handful, Flowers of Mullein, Melilot, Violets, Chamomil each two Pugils, Linseed, Fenugreek each half a Drachm, Fat, dried Figs No. six. Boyl them either in Water or in Milk, and if the Heat be very high, in Butter-Milk: for all People cannot bear fat things, as a few days since I observed in a Man of fouricore, who upon anointing outwardly with fat things fell into a Swoon.

When the Abscess is ripe, we must presently proceed to get out the *Pus*, lest by continuance there it grow sharp; wherefore tapping the Breast must not be procrastinated, but yet we must have a care, that we take not all the *Pus* away at one time, but at several; and when way is made for the *Pus*, we must proceed immediately to the cleaning and healing of the Ulcer; to which purpose our Author says

Balsamus Sulphuris anisatus or *terebinthinatus* is admirable good, if it be dropt into the Sore, and five drops or more of it may be given inwardly.

§. 18.

According to the *Cartesian Hypothesis*, to take the edge off these acute Particles, or saline Prickles, that are in the Blood, and are so ready to cut and open all sanguiferous Vessels, especially the Pneu-monick, and so cause spitting of Blood; and for cooling of the Blood, all gentle Balsamicks made of Oyls and mild Spirituous things are good; and so are all watry and cooling diluters. Take the following Julep for an instance;

Take of water of Plantain, Shepherds-purse each one Ounce and an half, Syrup of dried Roses one Ounce, *Lapis junella* three drachms. Mix them, make a Julep.

They commend all ponderous things for depressing the Volatil, such as Bole Armenick, red Coral, *terra sigillata*, and a thousand such other things. For correcting sharp and salt humors, and stopping the Effervescence of the Blood, according to them Opiates are good, especially *Pilula de cynoglossa*, *de Syrace*, but above all *theriacale* *caelestis* *Hanoviensis*. These are the things that are good in spitting of Blood. From what has preceeded a Physician of any discretion may know of himself what may be used in an *Empyema* and Apostem. It remains therefore that we produce our own opinion.

§. 19.

Formerly, when we spake of the Cause of these Diseases, we said something of the natural Fermentation of the Blood, that we might be better able to discourse of the preternatural, when we had considered its contrary. The Excretion therefore of Blood is either increased or diminished: for when the Spirits and Blood are, as naturally they should be well dipped, and do their Office, a man is said to be in health and brisk; but when either this fermentation in the Heart fails or exceeds, the Pulse either upon the interception of the Animal Spirits, or upon their too great afflux, ceases, respiration ceases, and at last follows the most terrible thing in nature,

—*Mors, ultima linea rerum.*

For upon this Fermentations being augmented in the Heart, a great commotion of the Blood in the Arteries and Veins arises from thence, and thereupon an Excretion and Spitting of Blood. Now since for the most part an even and gentle Fermentation depends upon a most exact combination of a two fold Salt, of an urinous and acid, or of an alkali and acid, then upon failure of one or both of these a rage and heat is raised either in the Mass of Blood, or in the animal Spirits themselves; for if you inject an alkali, namely Oyl of Tartar, into a Vein of any Creature, after it is dead, the Blood will appear fluid and thin, and so too much dissolved; on the contrary, if you inject an Acid into a Vein, namely Spirit of Nitre, after

it is dead you will find the Blood coagulated: But it is our greatest difficulty to know, whether the Blood break out of the Arteries, or the Veins. Now since there are many arguments, and those very strong ones, that it comes from the Arteries, especially because the arterious Blood differs from the venous on account of Consistency, and the arterious Blood is more thin and subtil by reason of abundance of Spirits, and therefore is more prone to evasate, their Opinion is very credible, who blame the Arteries; yet hitherto I can see no reason, why we may not hold, That Blood may come from the Veins, especially if we consider, That in the Veins the Pores are more open, that is, greater: besides, they are furnished but with single Coats; on the contrary, the Arteries with double ones, so that here a breach is more difficult. However it be, let every one make the best of his Opinion, we will proceed to the Cure it self. In all Excretions of Blood therefore, be the Cause what it will, if nothing contra-indicate, we bleed either in the Arm or Foot, especially in Women, who have not their *Menses*, then we restrain and stop the remaining Blood, and last of all dissolve what is coagulated. All the Mystery of stopping the Blood consists in its momentaneous coagulation, namely, That the coagulated Blood in the opened pneumonick Vessels may close their Lips and Wounds like a crust, and so may hinder the Blood from coming out, which very thing, both acid and austere things and heavy ones also do promise. But it must be observed, That according as sulphureous or serous Particles abound, so we use to give either Rhubarb alone,

lone, because it both binds, and carries off the sulphureous bilious Particles, to the quantity of one Drachm in Plantain Water; or if Serum also abound, we mix some Jalap with it: for violent things must never be given, because they encrease the Motion of the Blood, and so by their violence distend the Vessels, and either encrease the Flux of Blood, or if it be stopt, endanger the breaking of it out again. If there be a Cacochymy in the Blood, let the Patient be quiet for some days, that in the mean while the Vessels may heal, before it be purged off. This may serve for a Prescription.

Take of French Barly two Pugils, scraped Liquorice two Drachms, Raisins one Ounce. Boyl them in fair Water. Add to the Colature, as much Sugar as is sufficient. Or,

Take of Cassia new drawn, Conserve of Peach-Flowers each one Drachm, the best Rhubarb half a Drachm: Mix them. Make a Bolus. Or,

Take of Water of Cichory, Colts-foot each one Ounce and an half, Extract of Rhubarb half a Scruple, Powder of Rhubarb one Scruple, Jalap sixteen Grains, Syrup of Cichory with Rhubarb half an Ounce, Tincture of Roses one Drachm. Mix them.

Then for stopping of Spitting and all Excretions of Blood, and for qualifying the luxuriant Blood and enraged Spirits, both diluted with too much Serum, and disturbed with the intestine Tumult, and so breaking violently out at the Mouths of

the Arteries and abounding with too much of a sharp volatil Salt, or an Alkali, we commend serous or aqueous diluting things, such as the following;

Take of Water of red Roses one Ounce and an half, Plantain five Ounces, Tormential two Ounces, Syrup of Myrtles, Pomegranates each one Ounce, Spirit of terra sigillata half a Drachm. Mix them. Put it in a Glass, for several times taking.

In exceeding difficult cases we must have recourse to Narcoticks; and for this purpose these are very good, Camphore, *requies Nicolai*, *laudanum opiatum*, *theriaca Calistis*, &c. But if the Blood be deprived of its due consistency, and be disturbed with the Orgasm raised by the animal Spirits rushing impetuously into the Heart and Arteries (for when the Mouths of the little Arteries are burst, and once way is made, the Blood gushes out with violence) then we use to incrassate and coagulate with *Sylvius* his mixture already mentioned, or with one following like to it;

Take of Water of Purslain, Plantain, Ground-Ivy each one Ounce, Juice of Purslain one Ounce and an half, Blood-stone half a Drachm, Crabs-eyes one Scruple, *laudanum opiatum* two Grains, Syrup of Coral one Ounce. Mix them. Or,

Take of Water of red Roses, Tormential, Shepherd's-purse each one Ounce and an half, Vinegar of Roses one Ounce *species aiarvodon Abbatis*, *diarion Santalou*

X 3 each

each one Scruple, Dragon's-Blood, *terra sigillata* each half a Drachm, Syrup of Mirtles one Ounce. Mix them.

But in a case where the Acid is deficient, and rather an Alkali, or sharp volaril Salt has the predominance, either in the Spirits, or in the Blood (as any one may see in the Plague and other malignant Fevers, the malignity of which Diseases consists in a volatil Salt exalted to the highest pitch of sharpness, in which spontaneous profusions of Blood very often hasten the Patients end) for the incrassating and coagulating this attenuated Blood; besides Acids, by which this volatil Salt, infamous for its Acrimony, is conquered and depressed, nothing is found more proper than the following *arcanum*, which never failed us;

Take of crude Alum, Vitriol of Mars, *Saccharum Saturni* of each equal Parts; pour to them of Vinegar, Liquor of *terra sigillata*, Spirit of Vitriol each alike quantities. Prepare it according to Art. The Dose is from ten Drops to thirty.

There is another styptick Liquor made of *terra Martialis*, which will fail no Man. Things good for this purpose, are Tincture of Blood-stone, especially ours, which shall be mentioned hereafter, Tincture of Coral, of *terra Japonica*, of Sulphur, of Vitriol, to the quantity of of sixty Drops. Spitting of Blood often arises in the Scurvy, which may easily be cured, by adding convenient Antiscorbuticks, especially in A. Ley. For dulling and fix-

ing the lixivious volatil Salt, and for correcting and tempering the Acrimony of the Blood, and restoring its consistency, and that upon account of their Oyl or Acid, or volatil oily Spirit, we commend Emulsions of the four greater and less cold Seeds, white Poppy Seeds, adding a few Almonds for the Tastes sake; for which end Opiates are good, and *laudanum opiatum*, that stout conqueror of the animal Spirits, especially *theriaca coelestis*, *sulphur minerale* fixt by art, for these things have a great virtue in fixing the sharpest Salts and furious Spirits. Then for closing the opened Vessels, and glutinating the minute Fibres of the Arteries and Veins, moderately astringent and glutinous Vulneraries are good, for which purpose we recommend the following Decoction;

Take of the Leaves of Ladies mantle, Speedwel, Sanicle, Yarrow, Agrimony each half an handful, Roots of Comfrey, Liquorice, Tormentil each half an Ounce; Flowers of Daisy, wild Pomegranate each two Pugils, Pine-nuts half an Ounce, red Saunders, three Drachms, Crabs-eyes one Ounce, boyl them in six Pints to the Consumption of a third part. Or in the form of an Electuary.

Take of old Conserve of Roses two Ounces, *loboch de psyllio* one Ounce, Conserve of Comfrey half an Ounce, *pulvis stypticus Henrui vel Crostii* one Drachm, Crabs-eyes prepared half a Drachm, Syrup of dried Roses, Mouse-ear each what is sufficient. Mix them, make an Electuary.

Emulsions

Emulsions of Almonds are also good in this case.

Take of sweet Almonds blanched three Ounces, four greater cold Seeds, Poppy each half a Drachm, with Barly-Water make an Emulsion. Add of *saccharum perlatum*, [as much as will sweeten it. Or,

Take of Water of Yarrow, Speedwel, Shepherds-purse each one Ounce, *pulvis stypticus Crollii* half a Drachm, Seeds of white Henbane fifteen Grains, Syrup of Comfrey one Ounce. Mix them. Or in form of a Powder, to procure tenacity to the Blood,

Take of *pulvis anonymus* half an Ounce, Henbane Seeds, Crabs-eyes each one Drachm. Mix them. Make a Powder of several Doses, Or,

Take of red Coral, Pearl prepared each one Scruple, Gum-Arabick, Tragacanth each two Drachms. Mix them. Make a Powder for seven or eight Doses, and take two of them every day. Or,

Take of *Syrupus de symphyto Fernelii*, Syrup of red Poppy, of white Poppy each one Ounce, *laudanum opiatum* two Grains, Water of Speedwel one Drachm and an half. Mix them, and take it by spoonfuls.

Also Asses Milk with Steel quenched in it, is commended, because Chalybeates bind without obstruction. *Balsamus sulphuris terebinthinatus* or *anisatus* used outwardly or inwardly, to five drops, will conduce much to the healing the Vessels of the Lungs, we commend

the styptick Tincture of the English and an Infusion of Oyl Olive into the Veins of the Patient, as generous Remedies. As for Apoplexys of the Lungs, in them (that is, in a *Vomica* and *Empyema*) if there be no Fever, we highly value all sulphureous Medicines, such as Tincture of Sulphur, *balsamus sulphuris terebinthinatus*, the Samaritan Balsam, made of two Pounds of Oyl Olive, three Pounds of white Sugar, and two Pounds of Wine, also our universal Balsam, made a certain way out of Antimony. That also of Digby's is not amiss in a *Vomica*, to wit, an Apple filled with Frankincense, then roasted and eaten. The same Author also recommends to country People a Dish fit for their Tooth, that is, Horse-dung boyled in white Wine, and then eaten, Juice of Cresses is highly valued by *Cardilucius* in this Disease, but you have only the Authors word for it, I never yet in my Practice tried it. But when all these things do no good, if the Breast be filled and stuffed with great store of purulent Matter, we must have recourse to Tapping of the Breast (whereby I have seen several cured) but with this caution, that we use to do it with a Cautery between the sixth and seventh *Vertebra*, and then we let out the purulent Matter by little and little through a silver Pipe. And when this cruel Remedy is used, it is a good sign, if the *Pus* do not come out fetid, for then we may hope well of the Patients recovery; in the mean time we use to drop in some of the foresaid *balsamus sulphuris anisatus* or *terebinthinatus*, and we give five drops or more inwardly, if there be occasion. For the ordinary drink we commend.

In this case the following vulnerary Decoction.

Take of *Lapis sabulosus* three Drachms, Leaves of Ladies-Mantle, Water-creſſes, Saracens conſound, Golden-rod each one handful, Speedwel one handful and an half, Liquorice-root ſcraped one Ounce, Daiſy-Flowers half an handful. Mix them. Make a Decoction in Water. Or,

Take of a Decoction of Barly, Leaves of Plantain and Brook-lime or Water-creſſes three Pounds, towards the latter end let half an Ounce of *Sal prunella* be added.

Then we uſe to conclude the cure with divers Precipitaters, ſuch as Crabs-eyes, Coral, &c. Nor are we willing to neglect divers external things, both Unguents and Plaſters. Let this be a Receipt;

Take of Oyl of ſweet Almonds, Chamomil each half an Ounce, Poppy two Drachms, Saffron half a Drachm, Wax what is ſufficient. Mix them. Make an Unguent, wherewith to anoint the Breſt. Or,

Take of *Emplaſtrum diachylon cum gummi* one Ounce, Powder of Cumin-ſeeds, Florentine *Iris*-root each one Drachm, Saffron half a Drachm. Mix them. Make a Plaſter.

When theſe things will do no good, the Phyſician muſt drive before the Wind of divine Providence.

In ſpitting of Blood that applauded Liquor of *de la Vigne* the Frenchman will be proper, i. e.

Take of Alum, Vitriol each one Drachm, Phlegm of Vitriol one Ounce, let it boyl till the Contents be diſſolved, then let the filtrated Liquor be ſharpened with a few drops of Spirit of Vitriol. Or,

Take of crude Alum half a Drachm, *terra vitrioli dulcis* one Scruple, Phlegm of Vitriol a little ſharpened with Spirit of Vitriol one Ounce and an half, or two Ounces. Mix them.

But the Spirit of Wine rectified by it ſelf, externally applied, is better than all theſe things, becauſe all fluid Blood, even while it is hot and freſh, uſes preſently, to the beholders wonder, to coagulate with it; and, which is a thing not yet known to all Philoſophers and Phyſicians, Spirit of Wine it ſelf may eaſily be coagulated into a dry Powder, a thing which I have often done. Knot-graſs tied to the Arm-pits, is ſaid, preſently to ſtop Blood, as alſo a Toad well dried and held in the hand. Let the traumatick Eſſence be given out of the Fic twice or thrice a day, to threescore drops; and if any Blood be ſpate ſtill, then it muſt be mixt with Tincture of Sulphur of Vitriol. Or,

Take of Eſſence of Flowers of St. John's-wort, Crabs-eyes each three Drachms. Mix and give it.

CHAP. VI.

Of the Palpitation of the Heart.

§. I.

WE are yet about explicating the nature of Pectoral Diseases, among which the Princes of our Faculty do with other Diseases of the Heart, reckon, the Palpitation or Leaping of the Heart, which the Greeks call *παλινδυσκαρδίας*.

Description.

And this Disease is described to be, *a convulsive Motion, having its rise from vitious or bilious Blood, or from a too sharp diluted Serum, preternaturally contained in the pericardium, which villicates the Heart and nervous Fibres of the Arteries.* In the Pulse indeed the Heart and Arteries are naturally moved of the Spirits by *Systole* and *Diastole*, but they are not so in this Disease; for they are violently irritated, are in Convulsions and contracted. The operation therefore of the Motion of the Heart, which is performed in a Pulse, is natural, but in the Palpitation of the Heart it is preternatural; therefore the Disease has its name from the Part affe-

cted, and the Symptom, where-with the Patient is afflicted.

Difference.

But this Disease of ours differs very much from the Passion of the Heart, which is a Disease of the Mouth of the Stomach; but ours, of the Heart it self and Arteries. And it is vulgarly reckoned to differ from the trembling of the Heart in this, that in the trembling the carneous or motive Fibres of the Heart are affected by themselves, and the morbifick cause resides not in the Blood and cardiack Arteries, as it does in a Palpitation, though (in my Judgment) they only differ in degrees, and the nature of this Disease will appear more exactly by the following Case.

A Case.

A young Man, a German, twenty five years old, candidate in Physick, of a Melancholick Complexion, having made divers Journeys through France, England and Holland, having kept a bad Diet, and eating too much sowre Milk-Mears in

in *Holland*, fell into a double *Tertian*, and then into a *Quartan*, after he had tried all Remedies in vain, and was returned to his own Country, he was rid of his *Ague*, but after eating, there were still remaining Tensions of the *Hypochondria*, heaviness and anxiety of Heart, *Vertigo*, and a violent Palpitation of the Heart; especially after too much Exercise, or drinking of Wine, he felt a beating in all his Arteries, even the least; his Urine was full of small Gravel, sticking to the sides as well as to the bottom of the Urinal, with a very strong Pulse. The Patient requires help.

§. 2. Part affected.

BY the common consent of Authors, the Subject of our Disease is agreed to be the Heart, the Pamp of Life, which with the *pericardium* they reckon to be affected, either primarily or by consent: They think that the Vapors may ascend from the lower Parts to the Heart, and vellicate it. But we reckon, That beside the Heart, the Arteries are here affected, as to their Fibres, but especially the small Fibres of the left Ventricle of the Heart, which receives the Blood in abundance from the *vena cava*, and therefore the Heart bears the first brunt. Therefore we make no question, but the Heart is in this case affected both *idiopatically* and *sympathetically*, and the thing is the more credible, because peccant Matter may easily be communicated and transmitted from all Parts, by means of the Circulation of the Blood, for when these are infected, the Heart, and not the Blood is infected. Also, that

the Heart is a Muscle, and because of its Fibres, may easily be contracted, has been proved before by Experiments; for if Hearts be taken out of living Creatures, when they are hurt with the Knife's-point, they contract themselves, and move themselves impetuously, of which I shall say more hereafter, when I treat of the cause of this Disease.

§. 3. Diagnostick.

NOW we will proceed to the Diagnostick. Breathing in this Disease is small and rare, the Pulse in unequal and impetuous, the Heart of the Patient trembles and throbs, as if it would split, if you lay your hand to the Region of the Heart. This concussion is sometimes so violent, that the adjoining Ribs have been broken by it, and those that were about the Paps, have been dislocated, as *Fernelius* and *Sylvius* have observed. Also the Arteries of the whole Body, which we cannot feel in such as are well, are moved here, and especially those that are near the Throat, yea and sometimes the Patients feel the capillary Arteries beat strongly in their Fingers-ends. In some this Palpitation is so perceptible, that their Cloths, where-with they defend their Breast from external Injuries, may be seen by the bye-standers at a distance to rise and fall according to the Motion of the Heart and Arteries, as three days before I wrote this, I saw in a young Man, a strange and sad spectacle. Now and then also the bye-standers use to hear a plain sound or noise, as *Forestus* relates *obs. 1. lib. 17*. There are Anxieties of Heart, especially in a *hypochondriack*.

driack and scorbutick Constitution, which I have observed to be chiefly afflicted with this Disease. And this Disease is apt to return upon any Motion of Body or Mind, but especially upon Anger, Riding, Bathing, Surfeiting, Heat, immoderate Exercise, *Vitus*, Horror, Sadness, Fear, &c. For the Symptoms which chiefly accompany this Disease, are a sense of weight after Meat, Rumblings in the Guts caused by Wind, and Tensions of the *Hypochondria* caused thereby, there is a *Vertigo*, and Urine full of Gravel; but if it arise from consent of other Parts, a prudent and circumspect Physician may easily know that by the hurt of those Parts; so that we need not insist any longer upon this Matter, but will rather turn our selves to the Etiology.

§. 4.

And now we will briefly enquire into Authors various explanations of the cause, as we have done in other Diseases. The old Galenists say, That the cause of this Disease is either a too hot or too cold intemperature of the Heart: Some of them blame flatulent, malignant and gross Vapors and Spirits, shut up and detained in the *pericardium* or in the *sinus's* of the Heart, which are either bred in the Heart, or are sent from some where else, namely from the *hypochondria*, or Womb, or some other Parts, that are indisposed, from which they hold these Vapors may be sent by the Veins to the Heart. Others of them hold, That it may be bred and increased by a watry and purrid Humor, like Urine, inclosed in the *pericardium*, and that

thereby the Heart is irritated and sollicitd to a preternatural Motion, they also hold, That it may be caused remotely by Anger, *Venus*, Surfeiting, violent Exercise, &c. and their reason is, because by these things the Blood is inflamed, and the peccant Matter does, as it were, oppress the Heart, and therefore it endeavors to expel, what is noxious, by a violent Motion or Pulsation. And they do not at all doubt, but the same Disease sometimes arises from a *Poypus* of the Heart, or some watry, bloody Humor, That is in the *pericardium*. *Paulus Agineta* l. 3. c. 34. judges, That strong Palpitations of the Heart, do often proceed from the abundance or heat of Blood received into it. *Fernelius* blames retorrid Bile poured out into the Arteries, and sometimes gathered in the *Pracordia*, oftentimes in the Spleen. In a word, the whole Galenical Party do verily believe, That the four Humors are here amiss.

§. 5.

The Paracelsists do here, as is their manner, obtrude their Tartar, which by its vaporous and dissolved Substance is in all the Humors, and carried with them to the Parts. When therefore the *Archeus* of the Heart cannot rightly separate and expel this enemy, it cannot otherwise be, but that the Motion of the Heart must be thereby disturbed. They also blame black and malignant Fumes arising from the caco-chymick *Mercury* sublimate, beset with the sharp and corrosive Spirits of the Salts, besieging the Spirit of Life, now this, endeavouring a violent escape, and

the gross Fumes opposing it, they thereby cause such a Trepidation and Palpitation. And they use to compare it to an Earthquake, wherein abundance of preternatural Spirits or Wind, contained in the Bowels of the Earth, attempt a passage with great violence, and shake the Body of the Earth, which resists their various Motions, while they are carried a contrary way, and thus in the same manner they think, That the Palpitation of the Heart is caused by malignant Vapors let loose in the Heart. Some of them blame the precipitate Spirits of the Mercury, that beat against the *capsula cordis*; others blame the Tartar of the Aliment, not rightly separated, and so hurtful to the Heart.

§. 6.

Helmont refers the cause to a heterogeneous Gas, participating of the nature of the balsamick Salt, which affects most powerfully and quickly. *Tr. Complex. atque Mist. Element. num. 42.* In this Disease he acknowledges the austere ponticry of the Humors, contaminating the sensitive Spirit, to be the primary cause thereof: for he holds, That the *Archeus* of the Heart is irritated thereby, and stirr'd up to a disorderly Motion. He affirms also, That foul Vapors tinged with strange *Ideas*, and carried to the Heart, may produce something of the like nature, which *Ideas* in other places he gives an ill Character.

§. 7.

This holds, That this Disease, according to an anatomical Observation in a Divine, does arise from the efflux of Blood, being hindred in the Arteries, inasmuch as in the *Systole* of the Heart its Cone and Sides are drawn together and straitned, and the *bas*is of the Heart with the roots of the Vessels enlarged by the Blood gathered there, and sticking a little or forced back, swells our, whence flows the Palpitation of the Heart. Certain therefore it is, that this Disease depends upon some fault in the Blood or Vessels, and he proves it by this, Because plethorick People, and such as are nourished with a hot Blood, are inclinable to this Disease, and an Obstruction may easily follow from thence, both by the fault of the Arteries annexed to the Heart, and of the Venricles of the Heart, and of the Vessels of the Lungs, arising from the Humors concrete within those Vessels; whereupon the Vessels of the Heart do not contract themselves perfectly, and the Blood that would go out of the Heart, not finding room in the Lungs, does by violent distending the Vessels of the Heart shake the Heart it self, and thereupon necessarily causes a Palpitation of the Heart. For he proves by solid Arguments, That the Heart is spasmodically affected in this Disease, and his principal Argument is, because it is customary to such as are troubled with hypochondriack or hysteric Fits, the cause of which Fits is merely convulsive: for it is evident, That the Heart has its Arteries, Nerves, and motive Fibres, which if they

be contracted or too impetuously moved, they may easily stop the perfluent Blood and so this Disease is raised, as we may observe in Fear, Sadness, Shame, Love, whereby the Spirits are moved disorderly, and the Vessels are on a sudden, and for a good while so contracted, that the Blood can scarce, and not but by turns get out of the *Sinus*'s of the Heart. He therefore maintains, That this Disease does usually arise from too much Blood gathered, and stagnating in the Heart, together with a spasmodick commotion of the nervous Fibres: The first he proves, for that the Palpitation of the Heart arises from polypous Concretions that are usually bred within the *sinus* of the Heart or the Arteries, as other Practical Physicians do also observe: The latter he confirms by the impetuous Motions of the Animal Spirits, which easily cause a Convulsion.

§. 8.

Solbius, taking the Palpitation for a convulsive Motion of the Heart, defends his Opinion by this, That it is a Motion in some measure disorderly forced, and often violent. He also blames sharp Vapors arising from the *intestinum tenue* to the Heart, by reason of a vicious Effervescency raised there, because they disturb the Effervescency of the Blood, and molest the Heart, and thereby irritate it to an unequal contraction of it self; nor does he excuse viscous Humors, disturbing the Effervescency in the Heart, nor carneous Tumors in the substance of the Heart, nor bony Excrecencies, Cartilages, Worms, Wounds, &c. which molest the Heart.

§. 9.

Artes ascribes the natural Pulse to the rarefaction of one drop or two of Blood, and to the Bloods swelling thereupon, and slipping out of the Ventricle of the Heart into the Arteries: And he refers the cause of the Palpitation of the Heart, to over thick and spirituous Blood, which Ferments either over impetuously or mildly, and so passes more quickly or slowly out of the *sinus* of the Heart. Now therefore, if many both spirituous and viscous Particles be found in the Mass of Blood, it cannot otherwise be, but that this Disease must arise; for since the viscid Particles cannot so easily be severed by the spirituous, when they are quickly moved, by reason of their tenacious Figures sticking fast one to another, hence as often as these vicious Particles enter the Ventricles of the Heart, and as soon as they rarefy, they require more room, whence of necessity some violence must be done to the Heart and Arteries.

Therefore it is evident from what has been said, That the cause of the Palpitation is for the most part to be ascribed to the crudity and viscosity of the Blood, and that the Coats of the Ventricles of the Heart and Arteries are affected and shaken, which very thing the Cartesians do hereby prove, because the action of Fermentation, which otherwise would languish in Liquors to be fermented, for instance in new Wine, is easily promoted by casting in crude, *i. e.* unripe Fruits; and moreover, because they that are troubled with this Disease, void viscid Stuff, whence

It may the rather be concluded, That the Fermentation of the Blood is increased: for the over crude and viscous Blood returning to the Heart, may very well raise immoderate Effervescencies and Ebullitions not agreeable to nature, violent dilatations and preternatural Motions of the Heart, which are causes of the Palpitation, as Wind is of Storms. And they conclude as much from the *juvantia* and *noctantia*: because the sick are helped by Diaphoreticks, and hurt by Viscids; for several Practitioners know, That this Disease has come upon eating viscous Meats at Meals, such as sweet Milk mixt with Sugar, Feet of Beasts, Sea-fish, Oysters, &c. Nevertheless the Men of this Sect do not deny, That this Disease may be bred by too great a quantity of Blood, and by sharp, acute Particles flowing out of the Auricles of the Heart into its Ventricles and Fibres, upon this account, because violent Exercise, Running, Leaping and *Venus* are able by moving and agitating the Spirits to produce this Disease. So likewise none of them question, but it may be produced by a contraction and straitning of the Ventricles of the Heart, or by a *Polypus*, Phlegm, Worm, or a Stone; for then more animal Spirits than ordinary have recourse thither, and spasmodically contract the Fibres of the Heart and Arteries; and they deservedly place this Disease among spasmodick Diseases. See *waldsmidii Fundamenta medicine p. m. 86*. And let this suffice for other Men's Opinions.

§. 10.

U before we come to explain the cause of this Di-

sease, will premise something concerning the natural Action of the Heart, that so the preternatural Action thereof may appear the plainer. The Heart is the Work-house wherein the transmutation of Chyle into Blood is performed, and indeed the Chyle mixt with the *lymph* is poured into the left Axillary Vein (where the Blood receives its Rudiments) by the thoracick Duct (which in Men is usually on the right side, but in Beasts on the left) is wrought by it, and by its Motion is driven into the right Auricle of the Heart, then into the left Ventricle, and afterwards is turned into the like Blood. Nor need it be so much admired, why the white Chyle does so quickly grow red, since this is easily done in Chymistry: I keep a most limpid Liquor by me, which upon pouring of an acid Spirit to it grows red in a moment. For the Heart is the principal Part, and next to it the Arteries, which when ulcerated and hurt, the Blood must needs run out, and the circulation be hindered: wherefore all Wounds of the Heart by the universal consent of Physicians are said to be mortal; which the noble *Segerus* in his *Triumphus cordis* confirms, where he says, *That is has never been found, that any one wounded in the Heart recovered*. But I would have all here take notice, That in the Earldom of *Nassow*, there was a Bullet of Lead found in the Heart of a Boar, covered with Flesh, that no way endangered his life: for he was a large Boar, and when it was taken out with a Huntsman's-knife, any one might observe that the Wound was not made two or three days,

but

but a long time before. These few things premised, let us examine the use of the Heart; and indeed some of the Moderns hold, That Blood is made in the Heart by elixating with the innate heat of the Heart. Some imagine, That the Blood being by a repeated course carried to the Heart, is rarefied, heated and kindled by the vital Flame blazing in its left Ventricle, and so the Chyle mixt with it is attenuated, and turned into Blood. But *Sylvius* thinks, That from an acid *Lympha* descending with the Blood by the Axillary Veins, and from Bile ascending with the Blood by the trunk of the *vena cava*, and they meeting in the Heart, because of the contrariety of the Acid in the *Lympha* to the urinous Salt in the Bile, there arises an Effervescence in the Ventricles of the Heart. But since the Motion of the Bile, which he supposes is not so certain, and the *Lympha* is not so acid to Sense, nor the ascending Blood so bilious, as to be able to raise this Effervescence, therefore we justly suspend our judgment, though the Noble *Wilhel. ten Rhyve* seems to subscribe, when he says, *The primary Author of the universal Motion or Circulation of the Bile in the Blood depends on a particular agitation, while meeting with the sub-acid Lympha, it causes a vital Effervescency, as one fights against the other with Particles furnished with a different edge of Figures, that the innate heat may constantly be kept in the whole Body.* But we rather suspect that the Blood is made by the Fermentation of a twofold Salt, an acid and urinous, or a volatil *Alkali*, residing in the Mass of Blood from the very moment, when the Man was conceived, by the concurrence of

which being dissolved (and by the influence of the animal Spirits, which give so great a Motion both to the Heart and Arteries, and so cause the Blood to flow more or less) they act one upon the other, and so life is continued. Wherefore *Helmont* is not out, when he places a certain vital Ferment in the left Ventricle, namely brought in and illuminated by vital Spirits. But we reckon, as does *Estmullerus*, That this acid and urinous Ferment is radicated in the salient Point of an Egg, because of a saline volatil Spirit; which *Charleton* has long since observed in his *Oeconomia* p. 65. saying, *It is manifestly apparent that the vital Spirit is raised in the primum seminale by means of the plastick virtue, and is fiery, for that noble Principle, which by its Heat and Motion in turning the purer part of the Colliquamentum from white to red, first makes Blood in the Embryo, it will be difficult to explain it, and likewise what it is that converts Chyle into Blood, and is the Author of the same work ever after, as long as the Man or Beast lives.* For to maintain life, these balsamick or sulphureous Particles of the Blood, must, as far as is possible, be preserved; since therefore the Coats and Membranes of the Veins and Arteries are porous, wear out by degrees, and their texture is broken, it cannot otherwise be, but these volatil Particles must fly out in time at these apertures, the Blood must cease to be volatil, and death at last invade the Hearts of old Men. The principle of Life is therefore so far good, as the Blood is kept in Motion by volatil or alkalick Particles, that is, the Animal Spirits.

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From what has been premised any one may easily guess at the cause of the Palpitation of the Heart; and it is certain, That it is different and various, according to the various and different texture, volatility and fixity of the Blood and Spirits: for sometimes it consists in a coagulation of the Blood made in some certain place of the Heart; yet in my Opinion, it is most usually caused by its too great rarefaction and excessive Commotion caused thereby. For no Man, who has any Brains in his Head, will deny, That this Commotion of the Heart may be hurt by divers causes, for it is as clear as the Sun, that this Disease may be caused either by an Acid contained in the Mass of Blood it self, or sent thither from some of the inferiour Parts, to wit, by an over sower pancreatick Juice, or an over volatile scorbutick Serum abounding in the Blood, or by a sharp Water, lying in the *pericardium*, and at sometimes communicated to the Heart. For we exclude no sharp Humors, where acid, viscid, austere or pituitous, if so be they are able by their Acrimony to irritate the *parenchyma* of the Heart and its Fibres to a convulsive and palpitating Motion, and to create a grumescence or thickness in the Blood, so that it is as it were hindered in the midst of its Motion, which lest it shou'd cease, Nature throws off by a subsultary Motion, whence proceeds this Palpitation, which we are now treating about. So also we believe, That the animal Spirits, in a tumult, and rushing impetuously into the Heart and Arteries, do often, if not always, affect them spasmodically: for from thence we deduce the frequent and vehement Pulse, Hear, &c.

S. II. Prognostick.

NOW in order let us take an account of the prognostick Signs. In respect of Life and Death in general this Disease is very dangerous; and it is evident, That life is endangered by it, because the Part affected is noble. The Symptoms also are violent, Swooning, suffocative Catarrhs, Convulsions, &c. but all hope is past, when any thing of malignity appears. And it is often fatal, because the natural distribution of the Blood is hindered. Yet that which comes sympathetically need not so much be feared, for this is an assertion of eternal verity in the Medical Schools. *What Symptoms arise by consent, are less dangerous than those that are essential.* *Timaeus l. 2. ep. 23.* says, That the issue of this Disease is dubious, because a principal Part is affected, and because it often degenerates into a mortal *Syncope*. But this Disease is more difficult to cure in Women, because of their impure viscous Bodies and sedentary life, than in Men. And if the Disease do ever and anon return, and afflict the Patient, it will endanger his life. But if Solution of Unity in the Head be joyned with it, the case is desperate; and though some have been freed from this sad evil by Bleeding, by a low Diet, and generous Medicines, of which we shall treat hereafter; yet on the other hand there are some, who after they had tried these things to no purpose, have within a year or some Months been taken with it again, and out of the World before their time; others have been taken off by acute Fevers; and some when they have thought

thought themselves well, 'have died suddenly in a Swoon, or of a suffocative Catarrh: for there is imminent danger of sudden death, if this Disease hold one long or return often. And if it proceed from an external cause, as from the violence of Venom, Bite or Blow, the case is also dangerous; yet here we ought not wholly to despair; however a Physician has always need of this Caution, to keep his Prognostick dubious, lest he disgrace both himself and his Art. This Disease is not so familiar to such as are troubled with Swooning, as to them that have a swollen Spleen, and are full of black feculent Blood, namely hypochondriacal People. Lastly, the Palpitation of the Heart ceases upon the dissolution and correction of the morbidick Matter, which when done, the natural Fermentation is restored in the Heart, and all is well, if the Cure, which now follows, be observed.

§. 12. Dietetick Cure.

AND indeed the first fountain of Cure is Dieterick, whereby the Physician relieves his Patient. Now how much a due course of Diet is able to do in preservation both from Diseases and Death, daily experience teaches. To this purpose that of Seneca is excellent *de brev. vit. c. 1. we have not received but made our Lives short (by Luxury;) nor are we sparing but prodigal of them: as great riches, when they fall into the hands of a bad Master, are quickly lavished away, but an Estate, though mean, if it fall to a good Possessor, does encrease by holding.* Wherefore we, as in every thing, so here especially being solicitous about

the observation of the Palpitation of the Heart, will not treat only in general, but in particular, what Diet we do advise, and what we disswade in this Disease. And it is evident from what has gone before, that not only Meat and Drink but all the non-naturals are herein comprehended, of the use and abuse of each of which we shall briefly discourse.

Chuse therefore a pure Air infected with no Filth, or Cloudy and Salt Exhalations, as it is in maritime Parts, which, unless it be such as the Physician would have it, must be corrected by art, for when the Cold exceeds, it must be heated with Fumes of Lawrel-leaves, Juniper, &c. When heat is urgent, it must be cooled by all means.

Food must be such, as may breed a good and laudable Blood and Spirits (for such as the Blood is, such are the Spirits) not a viscid, ferous, thin, nor a salt and sharp one, the simpler the better, according to Celsus. The Meat must therefore be temperate, of a good Juice; and for breeding of better Blood let Broths be seasoned with Saffron, Mace, Cinnamon and other Spices, both Herbs and Roots. For this purpose Broths are good, in which opening Roots of *Asparagus*, *Butchers-broom*, *Fenil*, *Bark of Capers*, &c. have been boiled. I have known *Indian Chocolate* given with good success. On the contrary flatulent, gross, viscid, sharp, salt and excessive acid Meats must be avoided; also eating of Garden Fruits, Milk, and smok-dried Meats is naught. For these cold and flatulent Meats do of themselves breed a flatulent (rather a sharp) Chyle, according to *Galen de palp. cord. c. 5.* Salt Meats are very hurtful in

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this

his case, because they sharpen the scorbutick *Serum*, and by consequence accelerate the Motion and violence of the Blood and Spirits; for scorbutick Persons are usually troubled with this Disease.

The *Drink* must be small, odorous Wine, mixt with Water: But in a hot Palpitation, where the use of Wine is hurtful instead of it let him drink a cordial Drink made of Peels of Citron, Orange and Cinnamon. On the contrary, let the Patient avoid rich Wines, and such as are corrupted with much Sulphur, which enrage the Blood and animal Spirits, and sollicit and stir up the Heart to an extraordinary Motion. And *Helmont* has taken notice, that great drinkers of Wine, and artists who are employed much about *aque fortes*, are troubled with the Palpitation of the Heart, because they attenuate the Blood, and injure the Spirits with their Taints. In this case also vitious and standing Waters are bad, and Beer made of such Water, windy, not well boiled, hopped and sowre, is bad; all which things hurt the Blood, and by consequence produce bad Spirits. The Patient therefore being made more cautious by the *juvantia* and *nocentia*, let him avoid what is hurtful, and rather favour his health than his Palate.

The *Motion* of the Body must be moderate, for too much of it exalts the Blood and Animal Spirits, enrages them and easily provokes them to spasmodick Motions. So likewise too much Rest does harm, to wit, a sedentary life, as *Helmont* has observed, who says, that idle Persons are afflicted with the Palpitation of the Heart, because the Chyle not rightly elaborated is in fault, and the Blood is not rightly

actuaded, which then stagnates, becomes gross and viscid, and by consequence sharp and vellicating; hereupon also the serous and acid Particles, that used to fly away, are not evacuated by transpiration, but remain in the Mass of Blood, especially about the Head, and fill it with many Crudities and Excrements, hurtful to the Mass of Blood and the animal Spirits that are in the Nerves, and often produce this Disease.

As to *Sleep* and *watching*, we must avoid excess on either hand, and we must always keep in memory that of the divine *Hippocrates*, *Sleeping and watching, if they exceed bounds, it is bad*. For immoderate Sleep renders the Spirits torpid, and so unable for their due Action, and it also renders the Blood torpid in its Motion; also too much Watching consumes the spirituous Particles in the Mass of Blood, and so leaves a vapid, tough, viscous and sharp Blood.

As for the *excreta* and *retenta*, they must be brought to the Laws of Nature, otherwise they become authors of this Disease; therefore the suppressed *Menstrua* in the Female sex, the Hemorrhoids in both, and bleeding at the Nose must be restored, lest the vitious Particles retained in the Mass of Blood, infect and plainly corrupt it with divers impurities.

Let the Patient industriously avoid the *Passions of the Mind*, especially Anger (wherein at other times a trembling is observed in the Limbs, why not in the Heart?) Sadness, Fear, sudden Joy, Sports of *Venus*, for one told me, That in the Venereal Sport such a Palpitation came upon him, that unless he had desisted, he had died for it; let him

him avoid all violent things, and as far as possible esteem them his enemies; for these things have great influence upon the Blood and Spirits, they breed Inflammations and Tremblings, they kindle Fevers by means of the Spirits, and a thousand other mischiefs issue thence, as out of the Trojan Horse. And what mischief they do to those that are well in health, daily experience, the most faithful mistress, does set before our Eyes, to the over-late repentance of offenders.

§. 13.

These things premised, we will proceed to the pharmaceutick cure, beginning, according to the Method we have hitherto observed, with the **Tinctents**. They therefore first of all, if the Body were cacochymick, rendered the Humors obedient to Nature by Preparers, such as *syrupus de duabus radicibus*, *Byzantinus*, *Oxymel simplex*, *compositum scilbaticum*, Water of Betony, Decoction of Aniseed, Betony, Fenil. In melancholists for this end they use Syrup of Dodder of Thyme, of Hops, of Apples, &c. and in a bilious Constitution Juice of Limons, Sorel, Water of Lettuce, Violets, Bugloss, Roses, Cichory. Which Humors thus prepared, they at last purge off with their evacuating Medicines; for example. In a hot Constitution they give *Syrupus de multiplici infusione rosarum*, *rhabarbari*; and in a melancholick Disposition they give *diasenna*, *confectio Hamech*, *Pilula Indæ*, *de lapide lazuli*, *sine quibus esse nolo*, *senna*, *epithymi*. But when this Disease comes from cold and pituitous Humors, they prescribe Agarick trochiscated, Agarick

Pills, &c. They usually also cry up Bleeding for an excellent Remedy in this Disease, and they let Blood till the Patient faint: In cold Constitutions they will not admit of it. Then they endeavour to drive all manner of heterogeneous Matter to the ignoble Parts, by Clysters, Cupping, Frictions and painful Ligatures, &c. Then they strengthen the Heart, and amend the hot and bilious or cold phlegmatick intemperature of the Blood by the following Medicines, which they call Corroboraters, such as *species diambre*, *confectio albermes*, *aromaticum rostatum*, Treacle given in Bugloss-Water, Musk, *Diamoron*, *diamoschu dulce*, *hippocras-Wine*, Juice of Bugloss, candied Citron-Peel, Zedoary, Nutmeg, Cloves. Externally they order the application of an Epithem of Cordial Water and Majoran, and also Bags of *Lignum Aloes*, *species diambre*, and other aromatick things.

But in a hot Palpitation, beside the aforesaid, they say that these Corroboraters are good, *species diarrhodon Abbatis*, *diamargariton frigidum*, *districion santalon*, Syrup of Pomegranate Juice. Sorel, Apples, Bugloss, Limons, Quinces, &c. In this case they use to apply externally Epithems of Flowers of Water-Lily, red Roses, Bugloss, Violets, with cooling Cordial Waters, or Bags filled with such *Species*. They prescribe also divers Cordial Balsams and Liniments, for instance, of *Lignum Aloe*, *Rhodion* and Nutmeg. They say, that Balm, Bugloss, Borrage, Coral, Pearl precious Stones, Bone of a Stags-heart, Ivory, Unicorn's-horn, &c. are good for all Palpitations of the Heart of what sort soever, out of which a prudent Physician may of himself make

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Several Receipts, which we shall now forbear.

§. 14.

THe Chymists in the Palpitation of the Heart advise the giving of such things, as remove the Oppilation of the vital Spirit, disperse caco-chymick Fumes, and highly strengthen the Balsam of Life; therefore *Paracelsus* advises the giving of one Scruple of prepared Gold in Lavender-Water, drawn with rectified Spirit of Wine; others of that Sect commend Oyl of Coral, Tinctures of Gems, Sapphires, Jacynth, &c. especially of Gold, if four or five drops of it be given in Balm-Wine. Some do in this Disease highly commend Oyl of Cinnamon, Amber to three drops, and the Essence of Pearl given in Syrup of Citron rind with Musk. So *Quercetan* highly esteems Essence of a Stag's heart, with alcolizate Spirit of Celandine, Harts-horn, *Monoceros*, with alcohol of Baum, Musk with Treacle Water, Civet and Castor extracted with their *Menstruums*. Many prefer an Extract of Cochinele or Alkermes as the highest Cordial. As for Externals, which here and there may be met with in Authors, and are not yet approved by experience, I shall not set them down here, lest I should be tedious.

§. 15.

Helmont follows, who says very well, *cap. de febr. 15. num. 7.* Then, though the Essences of Vegetables and Animals be hot, yet their volatill Salts (which you never saw) are temperate. So that if you

know how to transmute Oyl of Cinnamon, Cloves, Lavender, &c. into a volatill Salt, you have got a temperate Medicine, which will effect as much as can be expected from these Simples in the Palpitation of the Heart. In this case also he highly values Opiates: for he observed *cap. 9. de lithiasi §. 17.* that a certain Chymist, who had tarried long about *aqua regia*, fell into a terrible Palpitation of the Heart, and pains of his Arms, his Mouth was drawn to the right side, he slept not all Night, but had extreme Pain in his Arms, and grew very lean, because of the ponticity of the Waters, which he had received. In the mean time all external Remedies that were used, proved in vain, and the Patient was perfectly recovered only by taking *Laudanum* for thirteen days, and then he recovered his former Strength and Habit of Body; concerning which, see our Judgment below.

§. 16.

Ullis, because he reckons, That the Palpitation of the Heart depends upon some fault in the Blood or Arteries annexed to the Heart, and alledges manifold causes, does therefore proceed upon a different way of Cure. When therefore this Disease proceeds from any fault in the Blood, the Therapeutick Intention will be to kindle the over watry vicious Blood, and to exalt it to a better Effervescence and Temper, and to increase its active Particles, that are depressed or diminished, to which purpose he commends spirituous Medicines, also saline and sulphureous ones, and especially Chalybeates:

beates : here are some of the Author's Receipts ;

Take of Tincture of Antimony half an Ounce, *tinctura martis aperitiva* one Drachm and an half. Mix them, and put them in a Glas : give twenty drops twice a day in the following Julep.

Take of Water of Arow leaves three Ounces, Penny-Royal, Hyfop each two Ounces, Worms, *Mirabilis* each one Ounce, Sugar of Roses half an Ounce. Mix and give it.

But if this Disease have its rise from Obstruction of the Arteries and polypous Concretions, saline Medicines will be proper, especially such as are made of a volatil Salt, as Spirit of Salt, Sal Ammoniac, and a Tincture made with it of *Millepedes* or other volatil things, Spirit of Harts-horn, Soor, *Guajacum*, Box, &c. But if the Disease be caused by too great effervescence and Acrimony of Blood, then he orders Bleeding and temperate cooling cordial Juleps. And because he thinks the cause is convulsive, he therefore mixes Antispasmodicks with other things, and Specificks approved by his own experience. This is one Receipt;

Take of Spirit of Amber, Sal Ammoniac each one Drachm and an half, Tincture of Antimony two Drachms. Mix them, give fifteen drops.

Then he recommends to the prudent Physician the use of Frictions, Cupping glasses, Ligatures, Leeches, Fomentations, Unguents, Plasters,

and Epithems made of cordial and aromack things.

§. 17.

Sylvius, if the Palpitation of the Heart appears to arise from a viscous and sharp Humour, advises the use of Alterers, Incisers, and Medicines that temper the Acrimony: for which end he communicates the following Medicine to young Beginners ;

Take of Cinnamon-Water, Baum, Borrage each one Ounce, Syrup of Borrage, Bugloss, *carduus benedictus* each half an Ounce, Spirit of Vitriol of Mars half a Scruple. Mix them. Take a spoonful at a time.

And to carry off that viscid, phlegmatick and sharp Humor, he advises Purgatives, and he prefers Pills of Gums above all, which best dissolve and incide glutinous Humors.

Take of Gum-Galbanum, dissolved in Vinegar of Squills, and inspissated again, half a Drachm, Vitriol of Mars, calcined to whiteness one Scruple, Resin of Jalap fifteen Grains. Mix them. Make thirty Pills, for two Doses. Let him drink some Broth two hours after he has taken them.

And he commends the following Apozem for the same purpose.

Take of root of Parsly one Ounce, Arum one Drachm, Shavings of *Guajacum* three Ounces, Bayberries two Drachms, Pulp of *Coloquintida* one Drachm, Caraway Seeds two Scruples, Orange Peel

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two Drachm. Boyl them in a sufficient quantity of Spring-Water, in thirty Ounces of the Colature dissolve of Syrup of Roses solutive with *Sinna* three Ounces, rectified Spirit of Wine two Ounces. Mix them. Let the Patient take three Ounces of this Apozem.

He cures this Disease out of the Paroxysm gradually by Alterers and lenitive Evacuaters, giving them frequently mixt with other Specificks. And in a hor case he does not contemn Bleeding and Cupping.

§. 18.

THE *Cartesians*, as I said before, hold, That this Disease proceeds from a Blood either too viscus, too much rarefied, or from a spasmodick contraction of the Ventricles. In the first case therefore the Therapeutick Indication will be, to volatilize the viscus Blood, for which end, they admit of Diaphoreticks, and all manner of volatil Salts, as generous Remedies: for instances;

Take of *Mixtura simplex* three Drachms, our anodyne Cordial Essence half a Scruple. Mix and give it. Or,

Take of *Tinctura bezoardica Michaelis* one Drachm and an half, Tincture of Antimony one Scruple, Essence of *Opium* with Amber six drops. Mix them. The Dose is ten Drops.

Cranius his diaphoretick Powder made of Antimony and Camphore will do good in this case. And so

will a Decoction of the Woods.

The second Indication of Cure is to correct the Blood, that is too rare and effervescent, by Venesection and incrassating things, namely ponderous Medicines; therefore the following Electuary will not be improper;

Take of Conserve of Roses, Borrage, Bugloss each one Ounce, *confectio de hyacinthi* two Drachms, *Alhermes* one Drachm, Tincture of Coral one Scruple, *species de gemmis frigida* four Scruples, Bone of a Stags-heart half a Drachm, Jacynth-stone prepared one Scruple, *Syrupus acetositis citri* what is sufficient. Make an Electuary. Of which let the Patient take the quantity of a Chestnut at a time; or the following Powder;

Take of Oriental Pearl prepared one Drachm, burnt Harts-horn prepared three Drachms, Bobes of a Stags-heart No. x. of the five precious Stones each half a Scruple, yellow Saunders one Drachm. Mix them. Make a subtil Powder, which may be given from a Scruple to a Drachm in this or some such Vehicle.

Take of Oyl of sweet Almonds half an Ounce, Melon Seeds two Drachms, Cinnamon-Water one Ounce, Bugloss, black Cherry each tree Ounces, *julapium rosatum* one Ounce. Mix them.

Their third Therapeutick Indication is, to stop the convulsive Motion of the Heart; to which end they advise Antispasmodicks mixt with Cordials, which you may see in our way of cure.

§. 19.

IT remains now, That we give our own Opinion about the cure. Therefore, lest we should give Medicines like Empiricks, who (as the saying is) have but one Salve for every Sore, we shall, according to the Rule of dogmatical Physicians, use Method, and proceed, as near as possible, according to the Indications thereof, which are three. 1. *Curatory*, which bids us chiefly drive away the Disease in the Fit, and so it uses to free the Heart and Arteries from that strange Invasion and Leaping. 2. *Preservatory*, which respects the Causes out of the Paroxysm. 3. *Vital*, which has respect to the Patient's strength, which here is often very low. As to the first Indication, we draw several Remedies from the chirurgical and pharmacutick Fountain. Among the chirurgical ones we prefer bleeding, by which, and a due observation of diet, *Avicenna*, *Galen*, *Horslinus*, and others have perfectly cured several. One may therefore either bleed in the Arm or Foot, five Ounces or more: and if the Patient be fearful, *Rhazes* advises Cupping and scarifying the Back. But if the Disease will not cease so, we must reckon that a subtil, arterious Blood, full of Spirits, and a volatil Serum does rather abound in the Arteries, and therefore we allow of opening an Artery, provided there be an expert Arteriotomist, and the English Stryptick Liquor at hand: for we have found great benefit thereby. So likewise we do not condemn Infusion, no more than our worthy friend *Etmullerus*: But since morose and ignorant Men will

not allow of it, nor Physicians hazard their reputation upon it, this invention, to Man's great prejudice, is not yet made use of. Now follows the pharmacutick Fountain, from which generous Remedies are drawn, so that, when the Indications are known, the cure is happily performed. First of all, that sharp or acid, viscid, and sometimes volatil peccant Matter ought to be corrected, precipitated, and some way or other eliminated and amended; to which end all such things are good, as are found to be good Specificks by Authors, such as Pearl, burnt Harts-horn, *terra Lemnia*, fragments of the precious Stones, Bezoardicks. Here is a Receipt or two for young Beginners;

Take of Ivory prepared two Drachms, Harts-horn prepared, Coral each one Drachm, occidental Pearl prepared one Scruple, Emerald half a Scruple. Mix them. Make a subtil Powder, and give it in the following or some such mixture;

Take of Water of Baum, Borrage, Bugloss each three Ounces, Raspberry, Cinnamon, *aqua cordialis Saxonie temperata* each two Ounces. Mix them, and sweeten them with *jalapium rosatum*, or Sugar.

If you would make all things more effectual, so as to cut the viscid and tenacious Phlegm, and procure a fluidity, add *sul volatile oleosum nostrum*, or volatil Salt of Harts-horn: for instance;

Take of Water of Bugloss, Cinnamon, Baum each two Ounces, Essence of Amber half a Drachm, *Sul volatile oleosum nostrum* half

a Drachm, Syrup of Pearl one Ounce. Mix them.

All aromatick volatil Salts made of Cinnamon, Amber, &c. are good in this case. So *sperma ceti* is a good Medicine in absorbing any hostile Acid. To which end Tincture of Coral, made with volatil Salt of Tartar, may be given to thirteen drops.

When the Fit is a little quieted, then things that qualify, correct and discuss the acid Acrimony, the cause of Wind, are of great use: for instance;

Take of Extract of Rhubarb one Scruple, or of *extractum milanogogum*, *Pilula aloëtica*, *marocostina* each half a Scruple, *crocus Martis aperiens* three Grains, *Elixir proprietatis antiscorbuticum*, what is sufficient. Make a Pill according to Art. Or,

Take of *Massa pilula tartarea Quercitani*, *de gumm.* each half a Scruple, Vitriol of Mars three Grains, with Tincture of Tartar what is Sufficient. Make Pills.

Or for them that like an Apozem better;

Take of the five opening Roots, Bark of Caper-root, Tamarisk each two Drachms, the capillary Herbs, Dodder, each half an handful, cordial Flowers each one Pugil, Fenil Seeds two Drachms, Polypody of the Oak six Drachms, crude shining Tartar half an Ounce. Boyl them in Water and Wine each alike quantity, what is sufficient; in a Pound and an half of the Colature infuse warm half an Ounce of choice Rhubarb

for a Night, make a moderate expression, add of *Extractum Cnicopharmacum* two Drachms, *Syrupus de pomis Regis Sapor.* two Ounces, Water of Cinnamon and Bugloss half an Ounce. Mix them.

Riverius commends the giving of two Scruples of true Rhapontick. Or the following Composition may be made for a Physick Wine;

Take of the five opening Roots each one Ounce, Rhubarb three Drachms, Leaves of *Senna* one Ounce, the three Cordial Flowers each two Pugils, Rind of Citron, Cinnamon each one Drachm, Fenil-Seeds two Drachms. Mix them.

Or make an Infusion of Rhubarb, but with Salt of Tartar, or some other alkalifate Salt. For such sort of Salts are like a Key, which unlock the Medicine, by the addition whereof the Rhubarb is better opened, as is plainly apparent, from the Waters high red colour, wherein it is infused, which is not so deep coloured, when the Rhubarb is infused alone.

When this is done, Diaphoreticks may come in play, to incide and discuss the viscid Reliques and soak up the Acid. Take this Receipt;

Take of *Antimonium diaphoreticum*, Harts-horn prepared without fire each half a Scruple, Magistery of the Back-bones of Vipers five Grains. Mix them. Make a Powder. *Horstius tom. 2. p. 48.* has a very excellent Treacle Spirit. So *aqua theriacalis camphorata* or Tincture of *Opium* will supply its place. Or,

Take

Take of Water of *carduus benedictus*, *scorzonera*, Scabious each one Ounce, Harts-horn prepared without fire half a Drachm, *Pulvis Btzardicus Sennerti* half a Scruple, *confectio Alhermes* one Scruple, Syrup of Coral what is sufficient. Mix them.

If there be any suspicion, That this Disease has its rise from a too great effervescence of Blood, from heterogeneous and savage Salts, raising a disturbance in the *Serum* or Blood, like as it sometimes manifests it self by Pustules in the Breast, and other where; then besides Venesection we commend temperate Cordials and Antiscorbuticks together. To which purpose the following or some such like distilled Water will be good;

Take of root of *scorzonera*, Borrage, Bugloss, Male-Fern each one Ounce, Leaves of Spleen-wort, Sorel, Wall-Rue, Maiden-hair, Flowers of Marigold, Borrage, Bugloss, blew-flowred Trefoil, Broom, Pimpernel each one handful, Shavings of Harts-horn six Drachms, Pome-citron and Orange each No. 1. Cut the Ingredients small, infuse them in three Pounds of Wine, and one Pound of Whey of Goats-Milk for two Days and two Nights. Then add of Juice of Brook-lime, *carduus benedictus* each half a Pound, destil them in glass Vessels according to Art, and keep what you destil. Take one Ounce and an half of this with half an Ounce of *confectio Alhermes* every Morning and Evening. Or,

Take of Juice of Bugloss, Sorel, *carduus benedictus*, *beccabunga*, Bor-

rage each one Pound, Leaves of Citron, Baum three handfals, yellow Saunders three Drachms, *lignum Aloes* one Drachm and an half, Cinnamon one Drachm. Infuse and destil them according to Art.

Or prescribe some such like thing in form of an Electuary;

Take of Conserve of Bugloss-root, Citron-rind each half an Ounce, red Roses, Rosemary-flowers each six Drachms, Shavings of Harts-horn, Ivory each half a Drachm, prepared Pearl half a Scruple, *crocus Martis*, Amber-grise each six Grains; with Syrup of Grains of *Chermis* make an Electuary.

Or in form of a Powder;

Take of *lapis prunelle* one Scruple, Camphore four Grains. Mix them. Or,

Take of Conserve of red Roses two Ounces, Pulp of Citron three Ounces and an half, candied Citron Peel half an Ounce, *confectio Alhermes* one Drachm, prepared Pearl half a Scruple, sweet Spirit of Salt twenty five drops, Syrup of Raspberries what is sufficient. Make an Electuary.

And here Cakes made of the acid of Citron, Limons or Corinths with Sugar and a little *confectio Alhermes* are good. Or make a Powder;

Take of *species diamargariton frigida*, *electuarium de gemmis frigidum* each one Drachm, *electua inum de hyacintho* half a Drachm. Mix them. Make a Powder for several Doses.

All

All cool Cordial Waters, that are to be met with in Authors, may be used, especially the following, which is highly commended by the Ancients in every Palpitation of the Heart;

Take of Swine's-hearts No. 2. Stag's or Ox's-hearts No. 3. Galangal greater and less, Basil Seed each half an Ounce, Mace three Drachms, Flowers of Borrage, Buglois each two Pugils, Rosemary one Pupil. Infuse them in Malmsey Wine, and destil them according to Art.

Oftentimes in this Disease Gravel is found sticking to the sides of the Urinal, and in this case, beside what has been already mentioned, Diureticks will be good, for instance, Spirit of Salt, Crabs-eyes, *Liquor spleneticus Schroderi* made of Tartar and Nitre. Besides, since we said formerly, That the Palpitation of the Heart arises often, if not always, because the Nerves and Fibres, that encompass the Heart and Arteries, are spasmodically contracted, and then they make the Motion of the Blood out of the Heart more or less free, and contract the Ventracles of the Heart; in which Case antiepileptick Medicines, or such as are good against other spasmodick Motions, may be given, but especially Opiates, which bear away the Bell from all the rest, as I have an instance, namely a Citizen of *Hanover* was perfectly cured of this Disease, and continues free from it still, only by taking several times a little *Theriaca celestis Hanovienfis*. Here is a receipt or two;

Take of prepared Pearl half a Scruple, volatil Salt of Amber eight

Grains, *theriaca celestis* four Grains. Mix them. Make a Powder for once taking. Or,

Take of *pulvis cephalicus noster* or *Michaelis* one Scruple, Bone of a Stag's-heart half a Scruple, Salt of Harts-horn, or Man's Blood six Grains. Mix and give it.

If sweet scented Volatils please the Patient, add to the destilled Water Amber and Musk in the Nose of the Alembick. Sometimes a glutinous salt Humor is carried out of some solid Receptacles into the Blood, and then *Capivaccius* uses gentle Astringents, such as Mastich, &c. If this Palpitation arise from the consent of other Parts, the Womb, Spleen, *hypochondria*, then you must take care of the Parts that are hurt; for which purpose Chalybeates are good; for so you kill two Birds with one stone. But if this Disease proceed from polypous Concretions within the *Sinus* of the Heart; then with the most experienced *willis* we fly to volatil Salts, which can never be sufficiently commended in this case. If it come from Worms, Medicines of Water-Cresses are good, and Specificks mixt with Cordials. If from a malignant cause, *theriaca celestis* and *smaragdina* are good. If from a fright, bleeding is proper. As for Topicks or external local Medicines, they must be applied to the Wrists and Region of the Heart: for they yield great comfort. Wherefore *Mercurialis* commends *Venice Treacle* for a most effectual Medicine, as it was experienced in the Emperor *Maximilian*, to whom this Disease was familiar. *Riverius* prescribes the following Liniment, *prax. med. l. 8. c. 2.*

Take

Take of Oynment of Roses two Drachms, Oyl of Cinnamon, Cloves each four drops, Musk, Amber each three Grains. Mix them. Make a Liniment.

But you must abstain from these sweet smelling things in Women. There is an excellent Cordial Balsam made of Oyl of Baum, Citron and Carbuncle. Bags may well be made of Cordial Powders, with Baum or some other Cordial Water, and applied. Or the following Epithem may be applied with Scarlet-cloth;

Take of Water of Orange Flowers, *carbunc. solav.* Baum with Wine each alike two Ounces, Vinegar

of Gilli-flowers one Ounce, Saffron half a Drachm. Mix them.

Or a cooler Epithem in a case hotter than ordinary;

Take of *aqua cordialis frigida* one Ounce, Bugloss, Roses each one Ounce, Vinegar of Rasberries one Ounce and an half, *consellio Alkermes, species diamargariton frigida* each one Drachm. Mix them for an Epithem.

A Swine's-heart Is very much commended by some, from which they use to destil a Water; and so the Spirit of an Ox's and Stag's heart is greatly valued.

CHAP.

CHAP. VII.

Of Swooning.

§. I.

Swooning or Fainting is called *Syncope*, *deliquium*, *leipopsychia*, *animi eclipsis*, *leipothymia*; by *Aurelius*, *solutio naturæ*, *defectus*; by *Seneca*, *concussura*; by *Paracelsus*, *cordis paralysis*, *fulmen microcosmi*; by *Scaliger*, *spirituum subtractio*.

Definition.

It may be described to be, *an eclipse of the microcosm, or a sudden failure of strength from the luminosity and irradiation of the Spirits being extinct, arising sometimes from too great dissolution, sometimes from coagulation of the Blood*. From the definition here given it appears, That this Disease, though it be violent enough, yet upon a small occasion it casts a Man down so unexpectedly, that he seems to be at Death's door.

Difference.

As to the differences, a Swooning or *deliquium* is much worse than a fainting or *leipothymia*; but this is not altogether so necessary, because they differ only in degrees.

Two Symptoms especially follow a *Syncope*, a coldness of the whole Body, and a cold Sweat, which is therefore called *syncoprick*. Want of Pulse, and a privation of Sense and Motion attend it, which *Curtius* does plainly intimate *L. 2. n. 38.* where he has this Passage. *His Soul, which in the heat of Battel had kept up his Body, fainted, and Sweat gushing out of all his Parts, he caught hold of the next Tree that was at hand.* This Disease (which seldom comes alone, but is usually accompanied with other Diseases) often arises in chronicl ones, which end in death, partly through want of animal Spirits, partly through want of an *alkali* in the Heart, or abundance rather of an Acid, that coagulates the Blood, and by consequence suffocates the Heart, as will more fully appear hereafter, when we treat of the Causes. Some make the Heart-burn to be a kind of *Syncope*; but we must take care to distinguish between a *Syncope*, which is called essential, and one arising by consent. There is a difference as we said before, not so much of Kinds as Degrees, in which regard one is of the lowest degree, and is called *eclipsis*; another of the middle, termed *leipothymia*; and another

ther of the highest degree, called *syncope*. But we comprehend them all under one and the same.

§. 2. *Part affected.*

And by what has been said, one may easily gather what the subject of a *Syncope* or Swooning is. It is by the common consent of Authors said to be the Heart, that fountain of Blood, inasmuch as in it the Principles of the fiery Nature are contained and preserved. Some will have it to be the Brain, and they make it out, Because the sudden decay of the animal Faculty happens through the animal Spirits retroceeding to the Brain it self; and hence the instruments of Sense and Motion, becoming destitute of Spirits, can in no wise perform its actions. But if this be taken with a limitation of the subject of the Disease and the Cause, one may easily clear himself of all difficulties. Some there are, That acknowledge the Stomach for the principal Subject, among whom *Helmont* is chief, but how far he is in the right, one may evidently see by *Galen l. 5. loc. aff. c. 2.* But we do think, That the Heart is the Part primarily and principally affected in Swoonings: for if Fermentation cease, then all Influx of Spirits to the Heart is denied, and on the contrary; and the less principal Parts in my Opinion are the Arteries, through which the Blood passes, nor do I doubt but other Parts suffer by consent, and that they administer peccant Matter to the Heart.

§. 3. *Diagnostick.*

But laying aside these preliminaries, we will pursue what follows, and go to the Diagnostick. The Signs therefore of an imminent Swooning are (especially in such as are used to it) an unthought of Anxiety and Perturbation of Mind, Heaviness of the Head, Observation of a strange and various colour, green and yellow, before the eyes, frequent alteration of the colour in the Face, and also of the Pulse. For no Disease in the whole World is liker Death than this: for a Man's Face is pale, his extreme Parts cool, there is an ingrateful and cold Sweat and Anxiety; at length the Soul so far sinks, That it presently loses its power of Sense and moving the Body; if a Man be standing he falls down, and his Arms hang flapping. Besides, there comes a Mist over the Eyes, a *Vertigo*, and then a faulting in Speech, breathing almost ceases, the Eye-lids close, sometimes there is no Pulse, oftentimes it is rare, obscure, and as good as none, or formicant, the extreme Parts, as we said before, Hands, Feet, Nose and Tips of the Ears are cold, a cold Sweat bursts out of the Temples, Neck and Breast, and sometimes out of the whole Body, which is extreme weak and feeble. The uterine Swooning of Virgins (for in them it arises from the Womb, as *Helmont* observes) shows it self by Anxiety, and almost loss of Breathing, the Pulse always weak and almost extinct, which abolition of Pulse and Breathing *Sylvius* takes for a pathognomonick sign of a *Syncope*. And, as to that Matter, I observed not long ago a wonderful case;

case; an old Woman, for three days time before her death, had no Pulse that we could feel in her Wrists, and yet she could speak.

§. 4. Cause.

THe next thing we inquire into, is, whence all that mischief, which attends people in a Swoon, proceeds? The old Galenists will have the immediate cause to be a Defect of Vital Spirits, or a diminution and privation, not total (for that would be present death) but the remaining Spirits are forced to go back on a sudden out of the Body, and to run hastily to the heart, lest the strength of the heart should quite fail, which retrocession of Spirits they call Concentration. Concerning this see *Riverius c. 1. de Syncope l. 8.* who also says, that a defect of Vital Spirits happens four ways; either because Spirits are not sufficiently generated; or, when generated, they are dissipated and evacuated; or they are altered and corrupted; or finally, they are suffocated. The causes therefore of a *Syncope* are frequent, immoderate watching, sadness, anger, great anxiety, grievous sadness, bitter grief, acute Fevers, also in weakly persons, long Agues, excessive emptiness of the Body by fasting, labour, vomiting, sweat, fluxes, excessive loss of blood, and a sudden evacuation of water in the Dropsie. They maintain also, that this Disease does frequently rise from abundance of gross, crude, putrid, sharp, and biting meats and humours stagnating in the Body, which by their constant gnawing, as they say, do so obstruct the Mouth of the Sto-

mach and the Passages, that their Motion is intercepted, just as it is when respiration is stopt, and thus they hold, that a *Syncope* is generally caused. The Malignity also and Insalubrity of the ambient Air, also a poisonous humour or vapour, communicated by some external or internal part of the Body to the Heart or Stomach, also Inflammation, and such like things, which are able immoderately to alter or corrupt the temper of the heart, stomach or spirits, often cause a Swooning, since the strength of the Faculties consists in a good constitution of those parts. Also the Spirits alone, hurt in the manner aforesaid, communicate this evil to the principal parts and to such as have consent with them, and spoil their temper, and so cause this Disease.

§. 5.

But *Paracelsus* thinks, that the cause of this Disease is, the Separation of the *Synovia* (which with him is the Root and Essence of Life) from the Heart, by means whereof the salutary Star, thick Clouds being interposed, suffers an Eclipse, whereupon the whole Vital Region is beset with horrible darkness, and deadly shades. So also he maintains, that this Disease may rise from consent, that is, with the mouth of the Stomach (wherefore it is called *Syncope cardiaca* or *stomachica*) also with the womb, namely, from foul vapors sent to the heart.

§. 6.

§. 6.

Helmont, in a good many things exposing *Paracelsus* and his Chymical Principles, with a secret Emulation, as some passages in a Treatise entituled, *Compl. mist. Element. signent. n. 41, 42, &c.* and other where, if they be rightly examined, do sufficiently show, writes that the Arterial Spirit of our Life is of the nature of a *Gas*, that is, it is a Light and a Balsam preserving from Corruption; which is seen in a palpitation, *Syncope* and *Lipothymie*. For how much of the lively colour, vital light, and moist habit of the *Flesh* is lost in these Fits? How is the Face presently wrinkled? For the Spirit, which formerly did as it were enliven all with a pleasant strength, immediately flies away, and is changed by a strange Air. He proceeds, since the *Archeus* is in it self a *Gas*, of the nature of a balsamick Salt, if it meet with the Air of another Salt (as when Spirit of *Sal Ammoniack* meets with Spirit of *Salt Petre*) it being easily and speedily dissipable by the Pores, forgets its duty and charge; nor is it condensed into drops, because it is made of Arterial Blood. If in fainting and death any Sweat exhale, it is the dissolution of Venal nor Arterial Blood. Therefore the Vital *Gas*, because it is a light and balsam preserving from corruption, is begun to be compared to the light of the Sun. Now after these same Swoonings, the innate Spirits of the other parts, as it were smoaking, are altogether kindled by the solar light of the heart, like as the smoak of a Candle put out, touching the flame of another, con-

veighs the flame all along to that which was put out. Sometimes the Spirit of our life, because it is a *Gas*, is not powerfully and quickly affected by any other *Gas*, namely, by their immediate contact. And he explains the Cause of this Disease more exactly *tr. ignot. Act. Regim. n. 26.* where he says, *In a Swooning there is an Anodyne poison which disperses the Spirits, and then immediately takes away sense and motion*, which poison, he often teaches, in other places, does lie in the mouth of the Stomach, as in a central point and root, and principle of life, of digestion of meats, and of disposing them to life.

§. 7.

Willis supposes not only a kindling, or blazing of the Blood, (by means whereof he thinks, supplies for Spirits do daily depart from the Blood) but also a nitro-sulphureous ferment, whereby he thinks a flame is really kindled. But *Lower de Corde* denies this: for though, as he discourses, there be sulphureous particles in the Mass of Blood, yet the Blood can never blaze, because of the abundance of watry particles. In a word; he concludes, that this actual deflagration, maintained by *Willis*, can never be without utter destruction to life. Now *Willis* himself thinks, That the cause of this Disease lies in the very Blood, in as much as it is not kindled enough, nor circulated with vigor, that is, because the Blood, by reason of the Sulphureous particles too much blazed out or depressed, is become in a manner vapid and lifeless, and therefore little is kindled in the Heart and Lungs. Besides, when the Animal regiment

is sluggish, the Heart being destitute of a full Influx of Spirits, does not sufficiently move the Blood, so as to make it ferment briskly and kindle: which any one may observe in weak People, when they come out of a long sickness, in such as have lost much Blood, or have had great Evacuations, or are consumed with Age. He also holds, That the cause of this Disease may be, because the Blood is too much kindled in the Heart, and he proves it by this, Because the Blood, through the sulphureous Particles being too much dissolved, and put into effervescence, is kindled more than it ought, and thence a too violent heat is produced, especially if it be not presently ventilated by the Air; as acute Fevers and other hot Diseases do show. Nor also does he deny, That this Disease sometimes arises from the Influx of the animal Spirits being hindered.

§. 8.

Sylvius is almost of the same Opinion with Willis, and presupposes, That our natural life depends upon the conservation of the fire and innate heat perpetuated in the Heart, and dispersed every way together with the Blood for the vivification of each Part; which fire he thinks is kindled by the fermentation of Blood in the Heart, arising from the lixivious and volatilely Salt of Bile, and some acid Spirit, either *lympha* (which he supposes to be Acid) or pancreatrick Juice, so it be but mixt with the Blood: Therefore when this effervescence in the Heart ceases, then the vital Fire ceases to be kindled in the Heart, then the

Blood is no more rarefied, neither is the Heart irritated to contraction, nor contracted, nor is the Blood any more forced into the Arteries, nor are the Arteries expanded, and by consequence the Pulse is neither perceived in the Heart nor any where else, and thence arises a Swooning. He also thinks, it may be produced by reason of few or no animal Spirits flowing to the Heart, upon which the contraction and action of the Heart must necessarily cease. Furthermore, he makes no question, but Blood may be bred of a volatill sharp Salt, especially in the Plague and other malignant Diseases, which is over fluid; or (as it often proves) the Blood may be too grumous and coagulated by an Acid, because of the diminution of the Bile or its sharpness.

§. 9.

Cartes and his followers Hoggelandus, Brochhausen and others, as they take the Spirits for the subtlest Parts of the Blood, so they think, they are also produced by rarefaction in the Heart. And they ascribe this ebullition wholly to a certain vital fire, lodging in the Heart, which they call the *shining and vital Flame*. Yet Cornel. Consens. Phys. 7. p. 293. Needham de form. fet. p. 130. and others refute them. The Cartesians therefore derive a Syncope from the extinction or stifling of this vital Flame for a time. And they think this may be done divers ways, when perverse Spirits contract the Heart more than usual, to wit, when they are conveyed by the little Nerves which go round the Orifices of the Heart: And by these means, upon

upon sufficient store of Spirits being denied, and the mutual stock of circulating humors (in which regard either motion ought to be continual) being diminished, and the determination into the Muscles at that time ceasing, it happens, that a Man's Body falls suddenly to the ground, like a Logg; till by little and little he come to himself again, the Clouds of the circulating humors arising from the Blood being dispersed, and that either quickly or in a longer time, according to the greatness of the Disease, as *Brothausen* discourses elegantly, *Art. 103. in Oecon. Anim.*

§. 10.

LET us now take our own Task upon us. And the Doctrine of our Vital Principle is necessary to be known; before therefore we say much of the Disease, we will open that. Because from thence is all Motion, Health and Life (and since the reason of contraries is the same) so also is a Disease, yea Death it self. But such diversity of disagreeing Authors about this presents it self, that you can scarce tell whom you may safely trust. Some there are, who affirm, the Spirit of the *Embryo* is continually increased in the Spirit of the Mother, for this reason, that the *fetus* breaths not in the Womb. We will now pass by *Willis*, *Helmont*, *Cartes* and *Sylvius* their opinions, which we gave you in their places. Yet their opinion is the most received, who, to determine the nature and existence of the Vital Spirit, conclude and say, That it is the most subtil or salino-sulphureous part of the Blood, which by

its intestine Fermentation, separates and exhales from the rest, called by the name of Spirit. The Elaboration therefore and Restitution of this Vital Spirit they wholly ascribe to the Fermentation of the Blood; and hence they make no scruple to derive the restitution of lost health, but even the causes of Diseases from it. But *Majou in respir. pag. m. 156.* maintains a peculiar opinion about this matter, where he says, the Fermentation of the Blood is made within the substance of the Lungs, insomuch as the Nitro-aërial Spirits, supplied by the Air, meet with the Salino-sulphureous Particles of the Blood, and so produce a due Fermentation in the Heart, which opinion nevertheless, that is, that the Salt of the Air is corporally mixt with the Blood, is called into question by *D. Bohn in tr. de Attris influxu in sublunaria*; but he rather judges, it is only the motion of the Air, which conserves the Vitality of the Blood and the whole. We have often said, that by Fermentation Authors mean nothing else but an intestine motion, in which an Acid, and something lixivial or urinous meeting together, do put the rest of the Particles, that make up the mixt Body, into motion. For the Bond of Mixtion is from Salt; as long therefore as the Salts lie still without tumult in mixt Bodies, other Particles intervening, and as long as they take their natural rest, so long Bodies remain in their natural texture and consistency. But if by means of dissolution, the frame of the mixt Body grow loose, and the Salts are at their own liberty, and desire presently to unite themselves, but by reason of material Particles in-

termixt, some Salts cannot closely unite; hence comes Fermentation: because under that union and mixture of Salts the unritable parts are joyned, of which matter the famous *Etmullerus* discourses admirably well in *Collegio M. 3S. chymico*. And from these things it is evident, where an Acid fail:, that there can be no Fermentation of the Blood, which Acid also almost all Physicians (especially *Tachenius*) prove to be in the Mass of Blood, by this, for that the Blood in its natural state is perfectly salt, and all Salt of a saltish taste consists of an acid and urinous, which two when they meet together, and that they never do without an Effervescence, give a third compounded Salt, namely, a saltish Salt, which is neither acid nor urinous, but partakes of both. Yet some deny this, and rather judge, that whatever is attributed to the subtilty and Mercurial activity in the Blood, it is only owing to our Spirits and Vital Principle; and they endeavour to prove it by this, because it happens in the first generation of Blood in the *Fetus*, when there are no acid Particles in a Womans ovary, which, meeting with something urinous and exalted, may make up Blood; but they hold, that the saline and fat Particles, being in process of maturity digested by virtue of the Spirits, and exalted, do give it its purple colour; and they derive this Vital Spirit from a saline, volatile Principle, upon which its activity does most depend, as *Willis*, *Sylvius*, and several others have done. *Helmont de aura vit. p. n.* 443. is of the same opinion, where he says, that our Spirits are only the most subtil and saline Particles of the Blood, endued with Vitality.

Barnerus in physicis confirms the same, showing, that our Constitutive Salt consists of urinous Volatils. Light delights in Salt, Salt has light and life in it as *Kircher. de naturalis* discourses: And some bring this reason against Fermentation, namely, That our first Vital Principle is finished without any such intestine tumult, and of what is taken separates what is convenient for its nature. The Vital Spirit residing in the Blood superadds light only by Irradiation, and converts into Spirit. Therefore men cry it up for an eternal verity, That all heat in our Body is from Blood, which yet is not hot of its own nature, but that all this heat depends only upon our Vital Spirit, which is in and without the Blood. Now as long as the Blood, endued with this Vital Spirit, is diffused by the Arteries into the Bowels and Limbs, so long the vigor and salutary heat of the parts is good; but upon the recess of heat, life recedes, and then the whole Body is cold and torpid. Therefore they wholly ascribe all the perceptible heat in us to our Spirits, the motion whereof, as it is swifter or slower, so likewise our Vital heat seems to be distinguished gradually. And I do not doubt but I can adapt this opinion, to what I am now going to say. These things therefore presupposed, it is naturally evident, whence Swooning, loss of strength, &c. yea, death it self proceeds; namely from want of Spirits, which do fail, if either they be not bred in a sufficient quantity, through want of adequate matter, which proceeds either from not using a spirituous food, or (though they do) from bad digestion, or from an excessive Evacuation of Spirits, by

a Looseness, Bleeding, the *Lochia*, &c. so also when they are bred, they may be dissipated by *Venus*, or Over-purging, which things are usually attended with fainting. Also violent Labor, Passions of the Mind, too much Watching, and such preternatural things may cause a defect of Spirits. And these Spirits, as bright as they are, yet in Swoonings they are darkened by divers causes; from the diminution and extinction of which light of the Spirits *Helmont* *rr. de aur. vital. p. m. 441.* says, That all defect of heat proceeds. For it is plain enough, That the Heart is a Muscle, and so not only the impulsive virtue of animal Spirits by the cardiac Nerves, but also a proper Influx of Spirits with the Blood, is required to its vibrating and continual Motion. Like as always there must of necessity be a continual Afflux for the altering of any motive Power; for it is evident, That, when Nerves as well as Arteries are cut in any Part, Motion ceases. Also *systole* and *diastole* are performed, and Blood mixt with *Serum* is sent to the external Parts by the help of Spirits. These things in general ought to be premised; from whence we may easily guess, that there are several causes of Swooning, namely, loss of Blood, whereupon the animal Spirits are not bred in such store; but most part of them flie into Air. Wasting, fixation or degradation of the Spirits destroy the energy of the Blood, and so cause Swooning. Also a dissipation or oppression of Spirits may take its rise from a crude Acid, whereby the volatil, saline Particles are in a manner suppressed, either from the Spleen, Womb, *hypochondria*, or some other

Part. I have often admired, why sweet scented things, yea, spirituous *effluvia* from a Car, Roses, yea from a Maid (such an instance I knew in a Student) should cause swooning: I could never hitherto assign any other reason, than that the volatil Parts coming from these things, do joyn themselves perversely with our Spirits, and are forced to strive, because of Particles of a different condition. Swooning is often caused by a fright, because in a fright the Spirits fly very disorderly and violently into the whole and every part of the Body, wherefore these Spirits also fly too plentifully and disorderly into the Heart and Arteries, and straiten the Heart and Vessels, whereupon the Blood that is got into the Heart, because of the narrowness of the straitened Heart, cannot rarefy much; wherefore also it is not driven with any strength into the pulmonary Arteries, and thence into the left Ventricle of the Heart, and out of that into the Arteries; hereupon immediately less store of animal Spirits is separated and flows into the Parts, whence Swooning and Paleness arise. And because Fermentation is much abated in the Blood, therefore any peccant Humor, that abounds in the Blood, is not mixt with its Mass any more, but some of it separates by the Pores of the Arteries into the Mouth, where it causes bitterness, into the Stomach, where sticking by its viscosity among the Membranes of the Stomach it causes loathing, and by its Acrimony vellicating the Nerves, it causes Vomiting when the Patient comes to himself. And let this suffice for the causes, which we may guess at by the *juvantia* and *ledantia*. Now therefore we

will proceed to the Prognostick

S. 11. Prognostick.

ALL Swooning is a grievous Disease, because it is terrible; for it carries a shew of death; yet it is familiar and frequent in melancholists and hysterick Women, and is seldom Mortal: for it goes more easily off in such, yet it leaves a languishing of all the Powers behind. It is also Hippocrates his prediction 2. aph. 41. and in *Coasis*, That they who faint often without a manifest cause, dy suddenly. If the head of one in a Swoon fall upon one shoulder or the Breast, if the Pulse and Breath intermit for a long time, also if the Face be green, black and blew, and if a sneezing Medicine have been taken in vain, death is at hand. Swoonings also in a Consumption denote death to be in the port. But if one Swoon at odoriferous things, or bleeding, or at the scent of any Animals, there is no great danger; for upon removal of the cause the effect is gone. Nor is that so dangerous, which comes from the Stomach: But if trembling and convulsions follow, death is at hand.

§. 12. Dietetick cure.

NOW having considered the ways, by which this Disease comes, and what may be foretold concerning it; it remains, that we proceed to the three kinds of Remedies, Diet, Chirurgery and Pharmacy, comprehending under Diet, not only Meat and Drink, but according to general custom, all the Non-naturals, which being used amiss, as they may destroy a good Constitution, so, being used aright,

they are able to preserve one in a natural State, yea and to cure a Disease. As to Air therefore, seeing according to Hippocrates lib. de flatibus, it is the greatest author and ruler in all things which befall the Body, all care imaginable should be taken, that it may be pure, serene and lucid: And when a Man cannot have one so good as he could wish by Nature, it must be rendred such by Art; that is, if it be presently required to lay the raging of the Spirits, a cold one must be chosen either by Nature, namely a Northern one, or it must be made so by Art, i. e. by strewing the Floor with Flowers of Poppy, Roses, Water-Lily, Leaves of Plaintain, Purslain, Houfleeck, &c. If there be need of a contrary operation, it must be made so by the heat of the Sun, Fire, or some other means. For Salmuth cent. 3. chf. 7. has observed, That the commotion of the Air has put some in a Swoon. And the Smoak of Charcoal is as bad, Schenckius also has observed, That the Emperor Juilian travelling in mid-Winter to Rome, and lodging in a new plastered Room, which had a great deal of Charcoal burnt in it, to dry the Plaster, dyed that Night. The Meat must be of easy Digestion, and good Juice, moderate in quantity, wholesome, taken at due times and in due order, agreeable to the Age and Sex. Gelly Broths of flesh are good, and Broths seasoned with Aromatics, and Galen l. 7. Meth. med. c. 6. says, That such as fall into Swoons must be relieved by eating Cock's-stones. And this must be taken special notice of, That such as are subject to this Disease must not continue long fasting, but may every Morning eat a little Bread and Butter.

Butter. The Drink must be Wine; for this is the most powerful repa-
rer and restorer of our Spirits, and
the recruiter of all our Faculties.
Wine, says *Helmont*, though it be
hot, yet since it is most grateful
both to the Palate and Stomach,
taken moderately in hot Diseases,
is a most acceptable Guest to the
Spirits, and a Medicamentous Ali-
ment; but Wine cooled in Ice the
Italian way, must be utterly avoid-
ed: for one in *Schénckius* l. 2. *de*
anim. deliq. & sync. obs. 1. upon
drinking such chill Wine after long
playing at Ball in the Sun, swoon-
ed. I saw the like in *France* upon
drinking cold Beer, after playing
at Ball. So *Hildanus* cent. 5. *obs.*
27. relates, how one died in a
Swoon upon drinking cold Water.
Too much Exercise and Motion must
be forborn, because many Spirits
are thereby exhausted, and the sa-
line volatil Parts fly away, an Acid
remaining, and so People have
fainted. Sleep, the better part of a
Man's life, if it be moderate and
quiet, refreshes the Mind, and the
whole Body, and recruits the Spi-
rits, when consumed and sinking
with labor, care and study, which
on the contrary too much watch-
ing is able to destroy. But the
Physician must take care to judge
aright, and allow something to cus-
tom. The Passions of the Mind, as
far as possible, must be subdued by
reason, and their violence must be
repressed by theological advice; for
what is better than moderate Joy,
and what more hurtful than immoderate?
My Wife's Grand-father
died of it, and the same thing hap-
pen'd to a Mother upon the return
of her Sons from a Barrel, in
which she thought they had been
slain, who swooned away through

excessive Joy and died, according
to *Livy* l. 22. c. 7. So *Camerarius*
has collected Several instances of
mortal Swooning from Anger, that
short Madness. Of Love, See *Ri-
verius* l. 8. *pract. med.* c. 1. Several
Practitioners have observed it from
Grief, Study, Care, Sitting-up, and
such other things, wherefore golden
Mediocrity must be observed. Thus
it comes from Jealousy, Desire,
Fear, Emulation and Envy. I have
known it come from the horror of
a Spectrum, the sight of a Cat, Crabs,
a Sheep's-head, and other cases of
Anipathy, of which see the
German Ephemerides. The exercise
must observe their natural Order,
otherwise they cause great inconve-
nience in this Disease, for it may
easily be caused by frequent and
violent Purgers, Vomits, Bleeding,
Scarifying, Sweat, Hæmorrhoids,
Menses, Child-bed-Purgations, Eva-
cuation of Pus and Water in Apo-
stems and Dropsies. We forbid
the frequent use of Venus which
killed *Cornelius Gallus*, and *T. Har-
terius* in *Valerius Maximus* l. 9. c. 12.
who yet will not acknowledge that
for the true cause of their death;
for he says, But why should we in-
vent deaths, since it was not their
Lust, so much as Human frailty, that
took them away? For the end of our
Lives being exposed to various and
secret causes, sometimes things that do
not deserve it, bear the blame of our
death; when, notwithstanding, they
rather happen at the time of death,
than any way cause it. I know a
Man, who, when ever he lies with
his Wife, Swoons, and yet he loses
not his labor.

§. 13.

LET these things therefore suffice for the Nature, Causes, Subject, Differences and Signs of this Disease. It remains, that we give you the Method of Cure; and first we will give you the old *Galenists*. They, in the Fit, lay the Patient on a Bed, and sprinkle his Face with Rose-Water, or some other cold Water with a little Wine in it, to raise him. If the Swooning come from an hysterick Fit, they hold Castor to the Nose or *Ala fetida*, or some stinking Fumes. If it proceed from want of Food or loss of Blood, they refresh the Patient with generous Wine, and give him a Crust of Bread dipt in it, and out of the Fit they give him restorative things, as very nourishing Spoon-Meats, Gelly-Broths, and such things. If it come from poysonous Vapors bred within a Man or brought from without, then they give various Alexipharmacks with good success. But when it comes upon drinking of Poyson, they give a Vomit; and if a heat be felt in the Stomach, they give Milk, Butter and fat Broths. If it come from over-purging they give *Venice Treacle*, *Mithridate*, and other Opiates inwardly, and apply them outwardly. When too much Sweating causes it, they cure it by peuring cold Water, or Rose-Water, or Vinegar on the Face, or by applying cold Epithems. But if the Fit come from Terror or Fear, as it often does, they order Blood-letting; and give spirituous things; they also recall the suffocated Spirits to the out-side of the Body by Frictions, Ligatures, Cupping, &c. they use

Shouting aloud, Sneezing, and Pulling the Mouth, Nose and Fingers. But out of the Fit they use another Method, namely, they make the Humors obedient to Nature by Preparatives, and in a cold Cause they use these following, Syrup of Citron-Rind, Pomegranate-Juice, of Apple, *Oxymel simplex*, &c. But in a hot Cause they use Syrup of Sorel, Violets, Roses, Water of Borrage, Bugloss, Wood-Sorel, &c. After these things they use a gentle Solutive (unless the Disease arise from over-purging) to carry off the peccant Matter. Their Purgers in this case are these following, *Manna*, *Cassia* new drawn, *Rhubarb*, *Tamarinds*, &c. they also give gentle Clysters. When it comes from viscid Phlegm or puerid Humors, they give Vomits, but forbear all strong Evacuators. Avertents are of use in the Fit and out of it, such as Frictions, Ligatures, Cuppings, &c. Then they proceed to Strengtheners; in a cold Cause these things are good, *diarnoschu dulce*, *diambra*, *electuarium de gemmis*, Oyl of Cinnamon, generous Wine, all Cordial Waters, Water of Betony, Citron Rind, *scordium*, Tormencil, Cinnamon, Meadow-sweet, and Syrups made of the same, *Mithridate*, *Venice-Treacle*, *antidotus Matthioli*, and several other things. In which case they also use externals; for example, an Epithem for the Body of Cloves, Cinnamon, Saffron, *lignum aloes*, and Water of Baum, Roses or Majoran, or they apply Bags of the same to the Heart. But in a hot Cause they use Coolers, such as simple distilled Waters of Cordial Flowers. *Joh. Baptista Sylvaticus* highly commends distilled Water of Flesh in this Disease, and will have

have it to be of the same strength with the Flesh it self, from which it is drawn, though it nourish less. Syrup of Limons, Apples, Pomegranates, *species diarmargariton frigidum*, and Conserve of the four Cordial Flowers, are good. Externally they apply a Cordial Epithem made of Lignatoes, Sanders, Citron Peel, with Water of Borrage, Bugloss and Roses, or they make Bags of the same.

S. 14.

THE Chymists, for comforting the Vital Spirits, and all the Spirits of the Heart and Body, do prefer Essences and Tinctures before Spirits on many accounts. For this purpose they commend Gold, as the highest *arcanum*, and they ground their Opinion upon a Philosophical foundation, namely, that what the Sun is in the Heavens, the Heart in an Animal, Wine among Vegetables, the same is Gold among Minerals; and they laugh at *Scaliger's* Opinion, viz. That the Nature of Gold is very far distant from our Nature, and therefore that our Heart cannot in any wise be relieved by it. But whatever others say, *Paracelsus* with his Father *Hermes*, extols *aurum potable*; and to Gold he subjoins Mother of Pearl in form of an Oyl or Balsam, Essence of Saffron, Baum, &c. He also commends Antimony, which he calls the restorer of all the Faculties in the Body, and he in several places compares its solar Sulphur to Gold; and he magnifies *arcanum sulphuris*, *aqua viva*, Emerald and Salt of Pearl (which *Crollius* in his *Basilica Chymica*, says, is a most noble Cordial, and in temperature and operation next to

potable Sol.) *Arcanum* and Quintessence of Pearl in *Hartman* are good for these uses, and *stora margaritarum* and *corallorum* in *Schroder Pharm.* l. 3. c. 6. Tinctures of Coral prepared with various *menstrua*, Liquors of Gemms, Rubies, Granates, Topaz, Jacynth, and others are highly valued by them. These are among the Compound Waters, *aqua caponis*, *carbunculi*, *aurea*, *consortativa usitata*, Spirit of Roses, Treacle, Vitriol camphorate, Spirit of Wine with the diaphoretick Salt of *Alyius Antid.* lib. 4. c. 2. Spirit of Soot, *terra sigillata*, &c. also Oyl of Cinnamon, Amber, Mace, *lignum rhodium*, &c. Salt also of Pearl is good, and of Coral, *angelica*, *scordium*, volatil Salt of Harts-horn and Vipers, also Amber dissolved in Spirit of Wine, of which see *Beccherus Supplem. ad Physic. subterr.* p. 79. Also Wines of Bugloss, *Angelica*, Hippocras, and strengthening clareta, such as *Quercetan* has in his *Pharm. rest.* lib. 1. c. 9. will be of good use in this case, of which various Receipts might be given, but we leave them to the Judgment of the Physician.

S. 15.

HElmont, when his Head ran round, and he staggered, with fear of fainting, cured himself by a gentle Vomit; for so he cleared the Stomach of the dregs, whereby that turning *Idea* was impressed (for he suspects the cause to ly in the Stomach) afterwards, when he had eaten some Meat, and drunk a little Wine he grew better: But when he found a Relapse, he perfectly cured himself with Sulphur of Vitriol. And for taking away

the anodyne Poyson, that disperses the Spirits, and is urgent in this Disease, he commends divers spirituous and volatil things, whereby the Spirits grow clear, and the light of Life shines forth again.

§. 16.

Ullis distinguishes Cordial Medicines into two kinds, namely one which chiefly and immediately affects and kindles the Blood and animal Spirits; another which allays the immoderate Effervescence of the Blood and Spirits. In the first Class he places such things as exalt and kindle the Spirits and Blood; such as hot compound distilled Waters, Tincture of Saffron, *elixir vite Quercetani*, Tincture of Salt, Tartar, Steel, and other hot things; such as *aqua mirabilis*, Cinnamon, Cloves, Orange Peel distilled with Wine, to which volatil Spirits may be added. In the second Class he puts cold distilled Waters, all Acids, nitrous things, &c. Here is a Receipt;

Take of odoriferous Apples, Raspberries each six Ounces, *confectio de hyacintho* one Drachm, Syrup of Violets one Ounce, Spirit of Salt, what is sufficient for a grateful Acidity. Or,

Take of Spring-Water one Pound, Juice of Limons two Ounces, Sugar one Ounce and an half. Mix them. Make a Julep.

Also cordial things abounding with a volatil Salt may beneficially be given both in Fevers in respect of the Blood, and in Swoonings and sudden Faintings, such as

Spirit of Harts-horn, Treacle-Water, Spirit of Blood, of Man's-skull, Spirit of Sal Ammoniack, and Salt of Vipers, *crystallum minerale, pulvis à chelis*, Flowers of Sal Ammoniack, *bezoarticum minerale*, &c. Nor are they the meanest Cordials, whose Basis is an alkali Salt, such as oriental Bezoar, Coral, Pearl, all testaceous Powders and Stones, concerning all which things you may consult the Author himself, in his discourse of Cordial Medicines.

§. 17.

Splivius, in fear of a Swoon, and lighter Faintings commends the following mixture, taken by spoonfuls;

Take of Water of Mint two Ounces, *aqua vite Matthioli* or Tincture of Cinnamon half an Ounce, Oyl of Cloves six Drops, Syrup of Scurvy-grass one Ounce. Mix them.

The same excellent Person does upon daily experience commend in this case volatil Salts and aromatick Oyls, things that easily dissolve and incide every Viscid, and that temper and correct every Acid and Austere. Sometimes also he advises the use of things that disperse Vapors and Wind. And especially if the Patient be liker one dead than alive, so that he can neither open nor shut his Mouth, much less swallow as he should, then he will now and then put into the Patient's Mouth by a Tunnel three drops or more of the foresaid Oyls, incorporated by circulation with spirituous things.

§. 18.

THe *Cartesians* commend all spirituous saline volatil things, which can kindle the vital Flame, such as are all spirituous Waters, namely of Cinnamon, *carbusculi*. all that are cordial and odoriferous, Spirit of Citron, Spirit of Musk, Amber, Civer, Cinnamon and Cloves (yet here it must be observed, that Oyl of Amber and Cloves, joyned with spirituous and camphorate things act more effectually) and several other things of the same nature, which subtilize the Spirits, and kindle the sacred fire. Of which more afterwards.

§. 19.

Une place among Cordials all those things, that illuminate and make volatil Man's Spirits, as the Rays of the Sun do in the large Universe, and that are able to raise and quicken the Spirits, and join themselves with them, and withal maintain an equal Fermentation of the Blood. When therefore a Swooning or sinking of Spirits, proceeds from an excessive dissolution of the Blood, that is, from the abundance of an *Alkali*, sulphureous and spirituous things, yet moderately acid, but volatil, must be given, that a due consistency may be restored to the Blood, and its deficient Spirits and Fermentation may return. For which purpose I should advise strong Wine-Vinegar volatilized with Spirit of Wine, *tinctura bezoartica Michatlis*, Cinnamon Water, Spirit of black Cherries, or Roses with Amber. For

the sake of Beginners therefore take the following Receipt;

Take of Water of Cinnamon half an Ounce, Vinegar volatilized with Spirit of Wine one Ounce, Spirit of Roses with Amber one Drachm, Syrup of Cinnamon six Drachms. Mix them, and give a spoonful or two at a time.

Cinnamon, Musk and Amber (which last the English say, is found in the Bellies of Whales) excel all other cordial and strengthening things. The following corroborating Balsam may be made of these odoriferous things.

Take of Amber one Scruple, Musk half a Scruple, *conservatio Alhermes* two Drachms, Spirit of Roses, black Cherries each three Drachms, *aqua cordialis* Here. Saxon. *elixir vite Matthioli* each one Ounce. Let these things be mixt and circulated for eight days or more in a Vessel well closed. Then let the Balsam be filtered and kept for use. Or,

Take of Water of a Stag's-heart, Baum with Wine each two Ounces, Cinnamon with Borrage one Ounce, *conservatio Alhermes* one Drachm, Bone of a Stag's-heart twelve Grains, Syrup of Clove-gilly-flowers one Ounce. Mix them.

But if a volatil Acid be peccant, it will be advisable to add things that precipitate or bind an Acid; for which purpose this following is not the worst.

Take of Water of Borrage, Bugloss, Roses, Baum, of Juice of Citron

Citron each three Ounces, Cinnamon two Ounces, oriental Pearl prepared half a Drachm, burnt Harts-horn prepared three Drachms, *saccharum perlatum* half an Ounce. Mix them. Make a Pearl-water. Or,

Take of *aqua cordialis Herc. Saxon.* three Ounces, Essence of Baum one Drachm and an half, Tincture of Coral prepared with Spirit of Harts-horn half a Drachm, Syrup of Borrage Flowers six Drachms. Mix them. Give a spoonful at a time.

Or the following Powder;

Take of Oriental Pearl prepared half a Drachm, red Coral, Bone of a Stag's-heart each one Drachm, the five precious Stones half a Drachm. Mix them. Make a Powder. The Dose one Scruple. Or,

Take of *magisterium cordiale* two Drachms, *Cornu cervi solare* one Drachm, Bone of a Stag's-heart one Scruple. Mix them.

For all things may here be made use of which can imbibe an Acid, especially if the Swooning proceed from a coagulation of Blood in the Heart. To which end, the noble and experienced *Dr. Major* commends Spirit of Sal Ammoniac, that most powerful volatil *Alkali*, combined with Spirit of Wine camphorate, and Oyl of Amber, for a saline oily Spirit is made of it. Spirit of Harts-horn or Soot joined with Camphore will do the same. And in this case I must commend *Sachsius* his saline volatil restorative Liquor, for restoring and illumina-

ting the Sun of the Microcosm, which Remedy is usually made of Spirit of Cinnamon, artificially and curiously joined with destilled Oyl of Amber, Juniper and volatil Salt of Harts-horn. And upon this occasion I am willing to communicate my corroborating Essence.

Take of Spirit of Wine with Amber rectified half a Pound, purest Salt of Tartar one Ounce, get it over by destilling the Spirit. To which rightly exalted add of Oyl of Cinnamon, Mace, Amber as much as they will take up. Then add of Essence of Amber made with Spirit of Roses one Ounce, Spirit of Sal Ammoniac rectified one Ounce and an half. Make according to Art our corroborating Essence.

The taking of a few drops of this Essence, greatly refreshes the Spirits, dissolves coagulated Blood, destroys any Acid, and maintains an equal Fermentation and Motion in the Blood. In the coagulation of the Blood also *Sperma ceti*, found in the Brain of a Whale, and mixt with other Cordials, taken inwardly, is reckoned a second rate Remedy in Swooning. But if the Disease seem to climb up from the lower Parts, and if any thing convulsive appear, especially in Women, the Medicines must be more spirituous and sulphureous than saline. But in burning Fevers and Lipothymies arising thence, Cordials fortified with Acids are very good, because they restore and concentrate the Spirits exhausted by volatil Medicines, and dissipated by Sweat; for which end these things following are good, namely, *mixture simplex*, the Acid volatil Spirit of

of Vitriol. Here is a Receipt;

Take of Conserve of Pulp of Citron two Ounces, red Roses one Ounce, *confessio Alhermes* half an Ounces, sweet Spirit of Vitriol twenty five drops, *Syrupus acetosatis citri* what is sufficient. Make an Electuary. Or,

Take of *aqua cordialis frigida* two Ounce, Water of Baum, Juice of Citron each one Ounce, *confessio Alhermes* one Drachm, Water of Pearl one Ounce, *tinctura bezoartica Michaelis* twenty drops, Syrup of Pomegranates six Drachms. Mix them.

Water of Cinnamon and Mint is good in a Swooning from the Stomach, joyned with other Stomachicks both internal and external; *spiritus stomachicus Mynsichtii*, *Angeli Sala*, and *stomachicum Poterii* are good. But out of the paroxysm a gentle Vomit must be given, to carry off the peccant viscid Matter; and in this case various Absorbents and Precipitants are good. And in all Swoonings the *aqua sanitatis* of the Ancients is good, and *Glukrad's* Water of Man's Blood in his Notes upon *Beguin. lib. 3. c. 1.* also Essence of Man's Blood in *Faber Myrothec. Spagy. lib. 1. c. 8.* Essence of Civet, *ibid. c. 26.* When these things will do no good, I think we ought with the noble *Ettmullerus* to proceed to Infusion both of volatil Acid, and volatil alkalick Liquors, as occasion shall require. Among Externals we commend divers Epithems applied with a scarlet Cloth. Here is a Receipt or two for young Physicians;

Take of *aqua carbunculi* one Ounce and an half, *napha* one Ounce,

Powders for a cordial Epithem one Drachm, Spirit of Citron Peel one Drachm and an half. Or,

Take of *acetum bezoarticum* one Ounce, Spirit of Citron one Drachm. Mix them for the Wrists.

Or Bags filled with cordial Powders and wet in these or the like Liquors, may be applied. Or make the following Liniment; or some like it;

Take of Balsam of Amber, Cinnamon, *Angelica*, Cloves each half a Scruple. Mix them. Make a Balsam to anoint the Region of the Heart. Or,

Take of distilled Oyl of Citron, Baum each half a Scruple, liquid Amber eight Grains. Mix them with a sufficient quantity of Oyl of Nutmeg.

Or for anointing the Pulses;

Take of distilled Oyl of Baum, Citron each half a Scruple, *carbunculi* six drops, *lignum Rhodium* four drops. Mix them.

The Region of the Heart may be rubbed with some volatil oily Salt, or some volatil Spirit.

Balsam of white Amber rubbed on the Nose, also Balsam of Amber and Cinnamon given to smell to, and several other things raise a Man out of a Swoon.

If it be a Woman Patient, and there be any suspicion of hysterick Fits, hold a piece of burning blew Cloth to her Nostils and other Anti-hystericks. Also Spirit of Sal Ammoniack prepared with Quicklime

lime is good here, because it best penetrates through the Nostrils to the Brain ; it must be held to the Nostrils, and Essence of Castor must be given inwardly.

Here also all things are good both inwardly and outwardly, which are good in an Apoplexy ; *aqua vite* may likewise be poured into the Mouth.

The Urine is often made turbid in this Disease, because the mixture

of the Particles is disturbed, which is restored by *Sudorifics*.

If one fall into a Swoon after over-purging, Spirit of Treacle and Cinnamon-Water will be very proper, or Treacle may be applied outwardly to the Stomach.

In a Lipothymy upon Blood-letting, putting Salt into the Mouth, and rubbing the Tongue with it, will do good, as *Horstius* says.

The End of the Second B O O K.

BOOK

B O O K III.

Of Diseases of the Abdomen.

C H A P. I.

Of the Heart-burn, Squeamishness, Belching, Vomiting, Rumbling in the Guts, Heat of Stomach, and Want of Appetite.

§. I.

BEfore we go about to describe the Diseases of the *Abdomen*, it will be worth the labour, yea, it is of absolute necessity, to premise a few things concerning the Nature and Use of the Stomach. And before we proceed to the preternatural state, we will briefly touch upon the Natural, namely the abstruse work of Chylification, to the end the Faults of it may be more accurately known. The greatest part of the Ancients were of Opinion, That Chylification was performed by the heat of the adjacent *viscera* after the manner of Elixation, that is, as Flesh is boiled in Water, instead whereof drink is, so they think Meat is boiled in the Stomach. Others have thought, That

this Chylification was performed by a certain fictitious chylifick Faculty. Some of them think, That a certain melancholick Humor is poured out of the Spleen through the *vasa brevia* into the Stomach, by which acid Liquor, they would persuade us, the Food is dissolved: And some of the Moderns are of this Opinion, among whom is *Helmont*, that great Philosopher by fire. For he says, That without all controversy both Meat and Drink are dissolved in the Cavity of the Stomach into a diaphanous Cream, and he adds, That this is done by virtue of a Ferment manifestly Acid, which is borrowed from the Spleen. But a more curious Anatomy has destroyed this opinion at one blow, which shows, That in live Animals Blood indeed does descend from the Stomach through

through the *vasa brevia* to the Spleen, and is poured into the splenick Branch; but that nothing can come the contrary way, that is, from the Spleen to the Stomach; because the communication of this splenick Acid by the *vas breue* is hindred by a Valve. And so there is an end of that Figment. Our Opinion is, That Chylification is performed by way of Fermentation, with the help of Animal Spirits, and a certain acid Volatil, that is, a salino-ammoniacal Humor, contained in the Stomach, perhaps with the concurrence of the Pancreatick or some other Juice. First of all therefore the Meat should be well broken by the Teeth, as by Nature's Pestils, and when it is mixt with the *saliva*, and as it were imbued with the first Ferment, (for the *saliva*, as *Sylvius* testifies, *Disp.* 1. p. 8. consists of Water, Salt and Spirit, whence its penetrative and fermentative virtue has its rise) it is sent down the Gullet to the Stomach, and there, by that juice, which is proper and domestick to the Stomach, is transmuted into a sort of pultaceous Liquor, not unlike to Barly-Cream. This Ferment in Man scarce exceeds the quantity of an Ounce, and sticks in the folds, or innermost Coat of the Stomach, being carried thither from the minutest Glands, with the Animal Spirits, which dissolves and by its volatility subtilizes the Meat well chewed, and moistned with Spittle, and well dilured, and as it were macerated with drink, and it promotes the act of Fermentation like Baker's Leven. it deduces into act the Salts partly acid, and partly volatil, wherewith the food abounds, and by their means encreases the Fermentation, and at length

it changes all into a milky Juice, sometimes Acid, sometimes volatil, which we call Chyle. And by the way we must note this, That this Ferment in live Animals is thin and clear; but in dead ones it is always viscous. For it is certain, That a sort of acid Juice is always found in the Stomach of such as are in health, which the good Women know how to save from the Stomachs of Beasts when they are killed, for Cheese-runnet: And the sowre belching, before the Food is well turned into Chyle, shows as much. Besides, the authority and reason of one most conversant in the knowledge of natural things, that Archphilosopher Hippocrates, confirms the same, who, *aph. 1. sect. 6.* says, *In Fevers and long loosenss, if sowre Belching supervent, which was not there before, it is good; because the weakened Stomach recovers its Acidity, whereby it is able to dissolve the Meat into Chyle, and by consequence the Patient his health.* And experimental Philosophy will prove, That the Ferment ought to be volatil, or to consist of a certain volatil Salt; for it cannot be denied, that whatever should dispose any fermentable subject to Fermentation, must always be of the nature of a volatil Salt; and the case is the same, as when Hops or Spice are added to Beer or Ale (as is usually done in Bottle-Ale) whereby the Fermentation is heightened in both. So the very volatil *effluvia* of the Vine in flower ferment wines afresh. Thus much of the natural state, we will now proceed to the preternatural.

From the depravation therefore of this Ferment (a turgescence and *Orgasmus* of other humors also arising thereupon; together with the

the Crudity and Coction of the same) all those Diseases of the Stomach are derived, which now we will more particularly illustrate.

For what is that we call the *Heart-burn*, but a sad sensation of the mouth of the Stomach, which is very nervous, arising from sharp juices, that so dissolve the continuity by violence? What is *vomiting*, but an exclusion of something found in the Stomach; at the mouth, by the perverse peristaltick motion of the Stomach and Guts adjoining, caused by sharp and heterogeneous, malignant Particles? *Squeamishness* indeed depends upon Volatil Particles, but not very sharp, so that It and Vomiting differ only in degrees. *Heat of the Stomach* is produced, when the subtil and sharp Particles of Bile, that is in the Stomach, cause pain and heat in the Stomach and *oesophagus*. *Belching* is an affection of the Stomach. *Rumbling* of the Guts, depending upon sharp, acid and viscid Particles, yet Volatil also. *Want of Appetite*, which is called *Anorexia*, *Astia*, *Apositia*, *cibi fastidium*, &c. is a depravation of the Ferment of the Stomach arising from divers preternatural causes.

§. 2. Part affected.

FROM the definition it will not be difficult to gather, what is the part affected in these Diseases. And it is reckoned to be the Stomach by the consent of almost all Authors. In the *Heart-burn* we take the Orifice of the Stomach, which is wholly made up of Nerves, and looks like a net of Nerves, yea and the nervous Coat of the Stomach for the Subject. But we take

all the nervous little Fibres which make up the Stomach, for the Subject of Vomiting, as we do the Cavity of the Stomach for the Subject of Squeamishness and Belching. And we take the folds of the Stomach, in which the Ferment usually sticks, for the Subject of want of Appetite. Concerning the secondary Subject, and the Parts which have consent with the Stomach by the communion of the sixth pair of Nerves, we shall add nothing; for they may be many: of which notwithstanding we may better, according to the law of Method, treat in the cases.

§. 3. Diagnostick.

NOW we will proceed to the doctrine of Signs, which since it is the foundation of right Cure, we may do well to lay it down aright. The Pathognomick Sign of a *Heart-burn* is pricking or biting about the Pit of the Stomach; and perhaps, when there is a great gravity and distension in that sensible, nervous Part, namely the Orifice of the Stomach, there may be a great Anxiety of Heart, difficulty of Breathing, as in an *Asthma*, Swooning and *Verrigo*: for the Spirits being enraged cause these various Symptoms. *Squeamishness* also, and want of Appetite arise from a great Mass of viscid Humors, which make dull the Ferment of the Stomach, the Animal Spirits also, which communicate Heat and Tone, are then dissipated, and as it were desert their party, that is, the Stomach, whence it cannot otherwise be, but the deserted Party must flag. By reason also of a volatil Bile, a bilious Vomit often attends this Disease; by these Signs we judge

judge the Disease is idiopathick. As for a sympathick Heart-burn, the proper Signs of the Hurts and Diseases of the Parts, by whose fault it is caused, will make it known. And the Signs of a Vomit are manifest of themselves; yet oftentimes Head-ach, *Vertigo*, trembling of the under Lip, biting in the Mouth of the Stomach, frequent and plentiful Spitting, do precede, and if the cause ly in the Stomach, and the Disease be idiopathick, trouble and pain in the Stomach will evidently precede; but if it be sympathick, then a preceding pain in the Head, Womb, or some other Part, will give you further information. And in all excessive vomiting there is Anxiety of Heart, Head-ach, Swooning, and sometime Convulsions. As for Belching, it is either sowre or nidorous. The first is peculiar to Melancholists, the second to bilious and feverish Persons. In rumbling there is Wind, which shows it self by the noise it makes, and it puffs up the Belly. Want of Appetite presently shows it self, to wit, when the Patient is averse to all Meats, so that the very naming of it turns his Stomach, and the sight of it makes him quite sick. Heat of the Stomach is shown by bitterness in the Mouth, and when Pain and Heat is felt, and also a thin moisture like Water flows off the Stomach.

§. 4. Cause.

BEfore we proceed any farther, it will be requisite to search the true Causes, out of the Opinions of divers Authors. The Antients held, That the immediate Cause of the Heart-burn is a sad

Sense, or biting pain under the Cartilage of the Breast-bone. And the conjunct Causes are sharp, pituitous, bilious, portaceous, biting Humors, gathered in the Stomach, or sharp Wind, and Vapors arising out of the Cavity of the Stomach to the Mouth of it, which irritate it. To which causes they also add excessive Heat or Cold. Among the antecedent causes they reckon divers Meats and Drinks, which are virious and poysonous, such as Milk, horary and unripe Fruits, Fish, &c. which use to distend the Stomach, just as the Wind does the Guts in the Colick pain. They say, the internal cause of Vomiting and Squeamishness (which, as was said in the definition, differ only in degrees; for they rise from the same causes) is a dissolution and lubricity of the Stomach arising from some heterogeneous Humor contained in the Stomach, whether it be pituitous, bilious or melancholick, or mixt of these. So sowre Belching shows, That such a Phlegm sticks in the Stomach; a nidorous Belching, an adust Matter, and a bitter one, yellow Choler. And they derive the Heat of the Stomach either from yellow Choler or a bilious Vapor, carried to the Mouth of the Stomach and the Throat. But they will have want of Appetite to arise from some Intemperature, Obstruction of the meseraick Veins and Mouth of the Stomach, or from a Mass of viscid and phlegmatick Humors, which they say, breed satiety, or from bilious Matter, or some melancholick Humor, that fills the Stomach, and takes away the Appetite.

§. 5.

THE Chymists say, That saline Seeds, namely mucilaginous and tartareous, many fetid Sulphurs, and few Mercurials, cause such Diseases in the Stomach. For if mucilaginous, dirty, aluminous, styp-tick and bituminous Stuff cover the Sides and Wrinkles of the Stomach, there follows, according to *Paracelsus*, an oppilation of the Spirit of life, the Minister of all natural Actions, which being as it were taken captive and put in Chains, cannot exert its strength upon the Food it receives, nor furnish the separation of the Nutrient from the Excrement, whence the Offices of Concoction are slowly performed, and weakness of Stomach, Inconcoction, short Windedness, Compression, and a thousand other Torments follow, as *B. Petrus de morb. ventr. Hermet.* says. Then he goes on §. 17. These Impurities being oftentimes tainted with foreign Qualities, infect the mechanick Spirits of the Stomach with the same, whereby the Food being changed into a dissentaneous nature produces divers Ristings and Belchings. If they have vomitive, helleborine or antimonial Faculties, they cause Vomiting and Squeamishness. But when the Mucilages have stronger Tinctures of Salts, which are sharp and corrosive, as of Lime, Vitriol, Tartar, &c. then stronger and more painful Motions and Passions are raised, especially in the upper Orifice, which is endued with exquisite sense, there are strange Appetites, Heats, Prickings, Erosions and Bitings in the Stomach, like Colick-pains. And so when the Sulphur is kindled and

dissolved in the Stomach, it must need cause great Heat and Burning in the Stomach.

§. 6.

Helmont supposes, That Crudity is in Fault. If the Meat therefore receive not both Ferments, that is, its own and the lienary aright, then it encreases the sowreness, and there is an excess of Appetite, attended with a poutick corrosive Belching. For he thinks, Belching is either insipid, acid, poutick or nidorous. A very weak Stomach belches out insipid; a stronger Stomach belches, acid, nidorous, bitter, sharp, &c.

He thinks, Heart-burning is caused in the Mouth of the Stomach, as in a central Point, and the root and principle of life, of digestion of Meat, and of the disposition thereof to life, namely, while the *Pylorus*, like the furious Womb, moves its excentrick *Blas*. And it is wonderful, as *Grembs* says, That the *Pylorus* should have so great a power, that it alone is able to raise such various Scenes of Tempests. For in Vomiting the *Pylorus* must always of necessity be shut; and *Helmont* contends, That through the pertinacious closure of it the Humor contained in the Stomach sometimes turns eruginous, whereupon a violent, yea, sometimes a Mortal Vomiting follows. For he tells, how he opened the Body of one that died of vomiting black Stuff, and how he found the *Pylorus* exactly closed, and nothing else amiss. A Vomic therefore in *Helmont's* Opinion is caused two ways, either by the proper *Blas* of the *Pylorus*, and then it is without Pain, or from some Provocatives, then

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indeed it is by the *Pylorus*, but not by its proper Motion, and therefore is troublesome. A bilious Vomit arises, when bilious Matter is poured by the Parts adjoining, into the Stomach, then the *Pylorus* being shut, it corrupts the more, and the Contents are by the Quality of the Ferment made blew or green. So if the Ferment of the Gall be out of order, Heat, Ebullition and want of Appetite, Belching, Squeamishness and Vomiting arise: But if the Ferment of the Spleen be exorbitant, then the Vomit is bloody. The *Pylorus* therefore is either mad of it self, or is irritated by an occasional cause, which often proceeds from some fault in the Gall, when it has in it a pontick or austere Salt, which easily straitens the *Pylorus*. Therefore when the fury of the *Pylorus* is pacified, the Vomiting will cease; of which we shall speak in the Cure.

§. 7.

Willis in the Heart-burn blames bilious, sharp, alkaline, lixivious and heterogencous Particles carried to the Mouth of the Stomach, which do there twitch, corrugate and distend the nervous little Fibres, and by means of the Animal Spirits, cause a sad sensation. For he makes no question, but vomiting is a violent convulsive Motion of the Stomach, which therefore, he says, does arise from the explosion or great expansion of the animal Spirits, falling violently upon the Fibres of the Stomach, which Fibres are presently puffed up, and consequently abbreviated, so that the sides and bottom of the Stomach are drawn nearer to one another,

and upwards likewise towards the left Orifice, so that all the Contents are forced into the *oesophagus*: Whence it cannot otherwise be, but that all things, which are able to irritate the Spirits implanted in the carneous Fibres of the Stomach, must produce Vomiting more or less troublesome. And these Provocatives may be either Humors, Vapors, Meat, Drink, Physick or Poyson, so they be but sharp. Yet with *Helmont*, he holds, That Vomiting can be caused only by the shutting of the *Pylorus*. According to *Willis* it is easy to gather, what the causes of Belching, Rumbling in the Guts, Squeamishness, and want of Appetite are, from what has been said already; and it will appear more plainly, when we give our own Opinion.

§. 8.

Sylvius in the Heart-burn takes Solution of Continuity for the mediate cause, and blames an acid, fixt, sharp Ferment, made such by various Causes, and sharp Vapors of the same nature, that cut and irritate the Mouth of the Stomach, a very sensible Part, and so cause this cardialg Pain. But he thinks the immediate cause of Vomiting to be the peristaltick Motion of the Stomach and Guts inverted, caused by sharp, acid, austere and salt Humors carried to the Guts. And this inversion of the Motion, according to his Opinion, begins frequently at the place of insertion of both the *Ductus's*, that is, the Biliary and Pancreatick. And Garden-fruits, Poyson, putrid and corrupt Food, and other things help to raise a Vomiting remotely. But he will not have

have Vomiting of Blood to come from the Spleen or Liver, as most will, but only from the *Pancreas*. And he firmly holds, That the cause of Belching is Wind, distending the Stomach, and at length let go out at the Mouth with violence, arising from viscid Phlegm. He derives the loss of Appetite, and Heat of the Stomach from the same cause, namely a picrotus, viscid Humor, and sometimes from too volatil Bile. He derives loathing of Meat from vicious Exhalations, produced in the small Gut by a vicious fermentation, and rising to the Mouth of the Stomach. And he ascribes it both to Bile, and the pancreatick Juice and Phlegm, that flow into the small Gut, and are out of order, and so cause these disturbances.

§. 9.

THE Cartesian hold, That in the Heart-burn there is a sad sensation, which being presented by the Nerves to the Soul, is perceived: For the sharp or acid Particles, that corrode, or cut, or prick with their sharp Points, are in time more firmly fixt in by degrees, and so part the nervous Fibres in sunder, and shake them by vibration, which while it is continued to the Principle of the Nerves, the Sensory is violently moved by it, as by an unusual thing, and the Soul receives with aversation a sad sensation, threatening and often causing a Breach, which perception, carried to the Sense, we call Pain; whereupon the sharp Particles of the Blood being sometimes carried by a *metastasis* to the nervous Orifice of the Stomach, and vellicating that upper Orifice too much,

produce an intolerable Sense. And they think, That Squeamishness and Vomiting, and other Symptoms arise, if sharp and viscid Particles, either kept there, or carried with the Blood by the Arteries into the Stomach, do not correspond in their Figures to the Pores of the Stomach, and so do violence to the Filaments of the Stomach, whereby the Animal Spirits are irritated and hindered in their Motion where they should go: whereupon the Motion is inverted, and the Stomach must as it were prove abortive. They will have the Heat of the Stomach to come, while the sulphureous volatil Particles, carried to the Gullet, pierce the membranaceous Parts, and raise a Heat.

§. 10.

OUR Opinion is, That in these Diseases the Animal Spirits, being enraged, shake the little Fibres of the Stomach, and so the Stomach must of necessity be overturned, and all its Contents be thrown out of doors. In a Heart-burn therefore, according to the Opinion of all Physicians, there is a Solution of Continuity, while an disproportionate Object either resides in the Stomach it self, or comes from some other place into it, and distends, separates and parts in sunder the nervous Fibres of the Mouth of the Stomach; whereupon the Spirits that ly in the Fibres are moved disorderly; and so Pain is caused, which is either felt, pricking, rending, cutting, bruising, heavy, distending or burning, according as the peccant Matter; or the Ferment of the Stomach is more crude, fixt or sharp; whence

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also Pain is believed to be in that Part, from which a vibration of the nervous Fibres results to the common Sensory. And if there be an acid *mucus*, or a very sowre Ferment, joyned with much viscid Matter gathered by Indigestion, the Heart-burn must of necessity thence ensue. Bile also is preternaturally poured out of the *duodenum* into the Stomach, which by reason of its sharp, lixivious, alcalizate Particles, wherewith it abounds, is oftentimes able to vellicate the Fibres, and cause this sad Pain; therefore the Heart-burn comes most upon an empty Stomach, when the *menstruum*, because it has no Object upon which it may act, acquires a greater Acrimony from the sharp, saline Particles of the Bile, called into the Stomach, and consequently pierces the sensible Fibres, which vibration is carried to the common Sensory. For Salts especially, whether sharp, acid or sal-tish, lodged either in the Mass of Blood or in the *Serum* (as one may see in scorburtick People, who are often troubled with this Disease) and then getting head about the Mouth of the Stomach, and so by their rigid Points growing troublesome to the Membranes and nervous kind, are usually the causes of this Disease. If therefore in Fevers the balsamick and mild Particles be dispersed or inverted, and if on the contrary, lixivious, bilious and sharp ones be exalted and translated to the Mouth of the Stomach, the Heart-burn must of necessity follow. Also volatil, sharp and caustick Salts may easily produce this Disease, as we see in the Plague and other malignant Diseases, if they be gathered about the Mouth of the Stomach, and get

dominion there. Sharp Wind ascending to the upper Orifice of the Stomach, in form of a Vapor, while it violently insinuates it self into the nervous Fibres, and very much distends and vellicates them, may also cause this Disease. I observed, the Heart-burn was caused in a Woman by Worms voided at the Mouth.

Now we will declare in particular, what our Opinion is concerning Vomiting. Now if the enemy aforesaid burden the whole Stomach, and the *Pylorus* be wholly obstructed thereby, and a convulsive Contraction of it be made, violent Vomiting must of necessity follow. For the Stomach casts off whatever is troublesome, whether it offend in a saline, lixivious Acrimony or in Acidity. If therefore a vicious *mucus* or sharp Liquor stick in the folds of the Stomach, or if its Ferment be depraved (for when the Ferment is spoiled, the things that are taken, not being rightly tempered, grow sowre) and so the nervous Fibres, which make up the rough inner Coat, are by little and little saturated with some acid Tincture, and then by reason of the incongruity of the Object, are vellicated a little, till (the carnos Fibres, lying upon them, being drawn into consent) by means of the Animal Spirits they are contracted; and first a small Motion is made, whence comes a Squeamishness and Perturbation of the Stomach; and afterwards it grows stronger and stronger, whence comes Vomiting.

Here, by the way, I must mention some strange things, that have been voided by Vomiting. *Tibias Matthæi*, a Physician of Friburg in *Misnia*, drank some Water, that

was drawn out of a Well, into which a Cat had been thrown, upon which he found great pain in his Stomach, and having taken a Vomit, he brought up a Cat. A Woman in my Neighbourhood vomited above an hundred Lizards and died presently. I knew another, who vomited Frogs. And *Aristotle* knew one that vomited a live WheeZle.

If Vomiting come by consent, from a perverse Motion of regurgitation out of the upper Guts into the Stomach, or from an Artery or Vein breaking in it, then uncorrupt Blood is brought up by Vomit without Coughing. For the Blood put into an *orgasmus*, gets out where it can. And any acid Crudity mixt with a kind of caustick *Alkali*, falling into the Guts, or the sanguiferous Vessels, uses to produce bloody Stools and Vomit. So in Women or Maids, by reason of the stagnation of the *Menfes*, Blood sometimes is discharged into the Stomach, which through tarrying there is brought up clotted, and so other Evacuations suppressed are able to cause this Disease, of which we have discoursed sufficiently before, when we treated of Spitting of Blood. Women with Child do vomit also at the beginning, not only through consent of the Womb with the Stomach; but because the foul Matter cannot be purged by the Emundtory of the Womb, and not being able to wait the time of Birth, it returns, and takes upon it the nature of an Excrement, and because it has a sowreness in it, it is cast out by Vomit and other ways.

In Belching I think an acid, rough Paste is peccant, whether with the *Galenists* you will call it Phlegm,

or with *Paracelsus* a dreggy Tartar; it is all one to us, who will not differ about words, so we can but agree in things. For if this viscid Paste be fermented with a vitious Acidity, a lixivious *Alkali* also concurring, to wit, Bile (by whose provocation a flatulent Gas is belched up, as may appear by the intense Acidity of Meat taken in too great a quantity, when corrupt, or at length brought up) the Digestion of the Stomach is ill performed, and its perfection is worse finished in the *intestinum duodenum*, whereupon, whatever is taken and contained therein, swells with that fermentative Acidity, like Paste of Meal; and Wind is raised, by whose impetuosity straitness of the *præcordia*, Shortness of Breath, Restlessness, want of Sleep, swelling of the *hypochondria*, and Rumbling all over the *Abdomen*, are bred; as the very day that I writ this, I observed in a Man, upon drinking too much Water. Therefore a volatill acid crudity causes acid Belchings; and if there be but the least Portion of volatill Bile, that rises to the Stomach, the Belchings which are raised thereby, and distend the Stomach, either bite, or corrode, and so cause a heat of Stomach, and sometimes they smell of fried Eggs, sometimes of stinking Fish, and sometimes of bitter Bile it self. Belching shows a diminution of Heat, and a depravation of the Ferment in the Stomach: for the fermentation being weakened, all that is taken, degenerates into an acid, viscid Paste, that quite destroys the Appetite; and at length by the strength of Fermentation turns to Wind, which according to the Crudities in the Stomach is either nidorous, acid

or insipid; and this Wind does oftentimes with exquisite Pain exasperate the Sense of Vellication and Tension, which that viscid and stimy Matter, that oppressed the Stomach, had caused. This same Wind also being carried impetuously through the Cavity of the Guts, and hindered from passing, returns the same way, and meets with more, which rolling and rebounding cause a noise and rumbling in the Guts.

Squeamishness, hardness of Concoction, loss of Appetite, and other weakesses of Stomach, proceed from want of an acid or saline, seminal Ferment. For the Ferment is often buried and suppressed by the crude Particles of the Food, whereupon the Appetite must needs fail and be destroyed.

§. II. Prognostick.

Let us now go to the Prognostick, which gains a Physician much honour. And first of all, as to Life and Death, we observed a mortal Heart-burn, attended with strange Symptoms, in a certain Counsellor of Nassau. Nor is it without danger, when accompanied with Swooning, coldness of the extreme Parts, and cold Sweats, according to *Hippocrates, sect. 4. aph. 65.* The Heart-burn in Fevers is bad; and in pestilential ones chiefly, in the Small-Pox, and malignant Dysenteries it is often fatal, especially if there be the Hiccough also. For this Disease ends either in Swooning or Convulsions in such as are near death. And they dy quickly, who have their Stomach full of Worms. On the contrary, these Signs following are of better event.

The Heart-burn out of a Fever is a Sign, That one should take a Vomit, as *Hippocrates* advises, *lib. 4. aph. 17.* Out of burning Fevers therefore the Heart-burn is not so dangerous, but it usually ceases, when the Bile is discharged by Vomit. But when an Inflammation and Eschar is made by a malignant Cause or caustick Bile, then the case is dangerous, and is not so soon over; therefore the Physician must be careful. Yet it often afflicts at intervals, and is in the nature of a chonical Disease, which is not so dangerous. Sometimes it degenerates into a quartan Ague, as the noble *Horstius l. 1. obs. 13.* has observed. According to *Hippocrates*, If a Blister or Swelling arise in the right Leg of one that is troubled with the Heart-burn, it is deadly. Vomiting may sometimes be a good, and sometimes a bad Sign. For if it come on a critical Day in a Fever, it is good, otherwise it is bad. Vomiting after the Illiac Passion is bad. The Hiccough after Vomiting is bad, and also redness of Eyes, according to *Hippocrates l. 7. aph. 3.* Vomiting of black Choler in the beginning of any Disease, is Mortal; and so *Helmont* in opening of six and twenty Bodies, that died of this Disease, found nothing in the Stomach but a black Liquor, and the Pylorus shut; which is a Sign, That if any one vomit a blackish Liquor, or corrupt Blood, the case is bad. So a green and livid Vomit with a sink, is Mortal. Shivering, Heart-burn, Reaching, a *Vertigo*, and spluttering do usually denote Vomiting to be at hand. They prejudice their Health, who force themselves to Vomit; for they make a sink of their Stomachs, and hasten old Age

Age upon themselves. They that vomit every day, and after Meal, are apt to fall into an Heftick: for they are bilious and therefore macilent. Also every symptomatick vomit in a malignant Fever or Plague, and in other Diseases is hurtful; on the contrary, every critical vomit is good. *Hippocrates* says, That is the best vomit, which has Bile and Phlegm mixt together. A vomit coming upon a looseness cures the Disease, as *Hippocrates*, *sect. 7. aph. 15.* testifies.

As to the Prognostick in Vomiting of Blood, from what Cause or Part soever it proceed, it is always dangerous. Blood gushing out in great quantity endangers either sudden death, as I have observed, or coagulating on the Stomach it turns sowre, whence afterwards proceed Swoonings and Faintness, just as when it is coagulated in the Sinus of the Heart, precordial Suffocations follow. And there is less danger in that which proceeds from a suppression of the *Mensis* (for according to *Hippocrates*, *l. 5. aph. 32.* vomiting of Blood in Women ceases, when the *Mensis* come) than if it come from the Spleen, Liver, pancreas, &c. After Vomiting of Blood oftentimes a Dropsy follows, as I observed in two Citizens of *Hanover*, who died of a Dropsy. Therefore that is a most true saying of *Hippocrates*, *l. 4. aph. 25.* All manner of Blood coming upwards is bad. But if the Constitution be strong, then oftentimes it does little harm. So I knew three Citizens of *Hanover*, who fourteen or fifteen Years ago vomited at times above three Quarts of Blood, and notwithstanding they are alive and well.

Hippocrates makes mention of Belching, *l. 6. aph. 23.* Those that belch sowre are not subject to a Pleurisy. Also, *l. 6. aph. 1.* Sowre Belching coming upon long loosenesses, which were not there before, is a good Sign. In loathing of Meat or want of Stomach, Children are more hurt than Elder People. Also a bad Stomach is not so hurtful in the beginning of any Disease, as when the Disease is over, when an Appetite is the only way for restauration, otherwise the Body must shrink to nothing.

§. 12. Dietetick Cure.

NOW we will proceed to the Cure it self, and first of all to diet. The Air therefore must, as far as is possible, be pure and temperate, yet a little inclining to heat, because the Stomach cannot bear the ambient Cold, because of its many nervous Parts, as *Sennertus* shows, *l. 3. prax. part. 1. sect. 2. c. 15.* Every Air must be avoided, which is tainted with sharp, poisonous, arsenical, antimonial and saline Particles; because an acid, saline Disposition, if it do not produce, yet it may encrease the Disease.

The Meat, if in any case, ought here especially to be of good Juice, and easy of Digestion and Fermentation, and should be seasoned with divers Spices, Majoran, Thyme, Anise, and Seeds of Paradise. All Meats, that are viscid, windy, sharp, over-salt and smoak-dried, must be forborn; such as are all Pulse, Radish, Onions, Garlick and Chestnuts, which according to *Swalbins* create the Stomach much trouble, and loosen the Mouth of it with innumerable Belchings, and also

A a 4 Garden

arden-fruits. Sweet things likewise, Milk and fat things are hurtful here, which often acquire Acidity, and are able to produce the foresaid Diseases, especially Heat of the Stomach. Many mistakes also may be committed in the quantity, order and manner of taking. For heaped in too great a quantity they over-whelm the Ferment of the Stomach. Variety of Meats also taken at one Meal is hurtful. The *Drink* may be good Wine, such as the Patient has been used to. But not too much of it: for as excessive gormandizing spoils the Stomach and its Ferment, so guzzling of Wine, and especially Brandy, soaks up the Acid in the Stomach, as one may try by mixing Spirit of Wine with Acids, which turn sweet. And this is the reason why we see stout drinkers eat but little, contenting themselves with a Crust of Bread for a whole day, and at last they fall into a Dropsy for their pains.

The Motion of the Body must be moderate and seasonable, and in the Fit a Man must rest. But all Motion presently after Meal is to be blamed, in as much as it dissipates the more volatil Particles of the Meat, hinders the subtilty of the Chyle, wastes the Spirits, stirs the Humors that are quiet, and deduces latent Wind into act. Riding in a Coach also, and Sailing in a Ship are bad, and often cause Vomiting, because they pervert the Animal Spirits, and make them flow disorderly to the Stomach, whereupon it is convulse; as all who first go to Sea are for several days vexed with Nauseousness and Vomiting. The sight also of filthy things may cause Vomit by imagination.

Here we advise Sleep, and to supply the want of it by Opiates.

Among the *Passions of the Mind* Joy should be chosen; for the more violent, such as Anger, Sadnefs, Grief, Care and Sollicitude should be utterly avoided, and allayed with pleasant Discourse or Musick. For care must be taken, that the balsamick and sweet Consistency of the Mass of Blood be not lost, and that it be not made sharp and lifeless; for so the Ferment in the Stomach is destroyed.

As to the *excreta* and *retenta*, the Patient must go once a day to stool: for if the Excrements of the Belly be preternaturally retained, they send putrid and sharp Vapors to the Stomach, and grow sower, whereupon also the Stomach may be inverted by consent of these Parts, and a thousand troubles created. The case is the same in Obstructions of the *Menses*, Hemorrhoids, &c. and if these evacuations be not correspondent to Nature, they must be procured by Art.

§. 13. *Pharmaceutick Cure.*

THE cure of the Heart-burn, Squeamishness, Vomiting, Belching, Rumbling in the Guts and loss of Appetite, in the Judgment of the Ancients, varies according to the variety of causes; which yet in general they thus manage. First of all they make the Humors obedient to Nature by preparing Medicines, as they call them. In a cold Cause they give Syrup of Mint, Wormwood, with Water of Sage, Majoran, Betony, Fenil, &c. In a hot one they give Syrup of Cichory

Cichory with Rhubarb, of Juice of Sorel, *acetositis citri*, with Water of Cichory, Sorel, Plantain, Bugloss, &c. Then they endeavour to carry off the Humor by Evacuators, which with them are Rhubarb, that both purges and binds, and strengthens the Stomach, Syrup of Roses solutive, of Cichory with Rhubarb. Sometimes they allow of gentle Vomitories, such as white Vitriol, and a Decoction of Radish, that is, if there be thick and glutinous Humors, because they incide also: for oftentimes Vomiting is cured by Vomiting. To this end they prescribe Suppositories and Clysters, for revulsion of the Humors. In the Heart-burn and violent Vomiting they fly to Opiates, namely Venice Treacle, *requies Nicolai*, *philonium Romanum*, and the like, giving about a Drachm. Then they strengthen the Part with corroborating things, such as Syrup of Quinces, sowre Pomegranates, Limons, Conserve of Roses, Marmelade of Quinces, *terra sigillata*, Bole Armenick, Pearl, Mastich, and a thousand other things which may be met with here and there among Practitioners. Externally they apply a Cataplasm of Leven kneaded with Vinegar and Juice of Mint; they also anoint the Region of the Stomach with Oyl of Quinces, Roses, Worm-wood or Mint; or they make a Cataplasm of the Pulp of Quinces and Worm-wood Leaves applied warm to the Stomach. They advise also a Plaster in this case made of Mastich, Frankincense, Mint Leaves, Oyl of Turpentine and Wax. In a violent Vomiting they sometimes clap a Cupping-glass to the Stomach. And they go almost the same way to work in Vomiting of Blood. These

are general. But in the Heart-burn they write, That these things are specifically good, *aromaticum rosatum Mijues*, *diamargariton frigidum & calidum*, *letificans Galeni*, *diacinnamomum*, *rosata novella*, Treacle-Water, Conserve of Borrage, Bugloss, *Angelica*, Citron-Peel, &c. If the pain be greater after Meal, they conclude the Disease comes from viscid Phlegm; but if it be greater before Meal, that then Bile is the occasion especially if there be a bitterness in the Mouth; and so, according to the diversity of this or that Humor, they give Purges. If the Appetite be excessive, then they blame acid Phlegm, for which any one may easily prescribe Medicines. And the lost Appetite is according to them easily recovered, if you do but observe a different cure according to the diversity of the Causes. If any one have eaten over-much, they order him Fasting or a Vomit, and especially purging sowre Syrups. If Bile offend, they advise *Hiera* and Rhubarb, and to eat sowre Sawces with their Meat. But if Phlegm abound, they order divers Phlegmagogues, Clysters to cleanse the Guts from all mucus, and divers Incisers, of which Books of Practitioners are full, so that we shall insist no longer on them.

S. 14.

THE Chymists in a Heart-burn, besides vomitive Medicines do advise mitigating and stupefying ones, namely, *laudanum Paracelsi*. Some of them make an Essence of rectified Spirit of Wine and Oyl of Juniper very effectual in this case; and they do not omit other destilled Oyls both inwardly and outwardly.

wardly. In Squeamishness and Vomiting they use the following things. Their Master *Paracelsus* in comment. ad aph. 2. Hipp. says, That Vomiting must often be cured by Vomiting, if the Patient's strength will bear it, for by it all the heterogeneous things are cast out, which were the cause of it. Extract of Hellebore is good; afterwards the Vomiting is stopt with Spirit of Wine, fragments of the precious Stones and Coral. Oyl of Vitriol given in Malmsey Wine or Conserve of Roses or Mint, stops Vomiting, and so do Oyl of Mastic, Tincture of Gold, *Laudanum opiatum*, and a Crust of Bread dipt in Wine and Water, and strewed with Spices. Powder of a Pumice-Stone taken in Wine is said to be an excellent Medicine. They commend also the giving of *Gilla Theophrasti* at the beginning. Externally their Master commends Leven boyled with Juice of Mint and Vinegar to the consistency of a Plaster, applied hot to the Stomach. And in this case, after Medicines have been used in vain, they advise the setting a Cupping-glass with much Flame to the Mouth of the Stomach. In Belching and Rumbling of the Guts they advise discutient and attenuating things, such as Dill, Anise, Caraway, Fenil, *daucus*, *ammi*, *fistuli*, Bay-berries, Galangal, and all Aromaticks, Chymical Oyl of Aniseed, Basil, Mint, *Laudanum*, &c. given in Wine. For procuring an Appetite, they prescribe beside Vomits, natural sowre things taken, such as Spaw-Waters, and artificial Medicines, extracted from Metals, Minerals and Vegetables; and they are their Salts. For since Salts are the chief thing in comminution and digestion of the Meats,

therefore a Stomach is best restored by Salts. Hence they write, That Salts of Worm-wood, Mint, *carduus benedictus*, Pearl, &c. are good. They also magnify saline Spirits, of Vitriol namely and *Venus*. *Paracelsus de grad.* says, That the Stomach is preserved by Galangal as by an external Stomach. And so they commend the destilled Oyls of Juniper, Aniseed, Worm-wood, Fenil, Mint, Cummin, Pepper, Cloves, &c. both inwardly, and applied outwardly with Oyl of Nutmeg, for excellent Medicines. He also prescribes *Opium*, Costmary and Centaury. *Quercetan* observes, That the following Powder is a great strengthner of the Stomach;

Take of *Arum* Root prepared one Ounce, common *Acorus*, Burnet prepared each half an Ounce, Crabs-Eyes calcined two Drachms, Cress-Seed one Drachm, Sugar the weight of them all. Mix them, give a Spoonful in the Morning.

He also extols *crocus Martis* and Tincture of Mummy.

§. 15.

Helmont, in the Heart-burn, when the Mouth of the Stomach is charged with a viscid acid Phlegm, besides Vomits, commends Crabs-eyes, and other things to soak up the Acid. So also in Vomiting, for pacifying the enraged Stomach, he advises the drinking of cold Water, whereby he thinks the violence of the raging *archæus* is composed quickly, safely and pleasantly. But if the *Pylorus* be troubled by an occasional cause, that is, by a tenacious or acid Matter,

ter, then to soak up this viscid Acidity, he commends Crabs-eyes taken in some Vehicle. Nor do Vomits always obtain their certain effect, but sometimes the rage of the *Pylorus* is exasperated by them, as *Grimbs* observed in a Barber, *L. 2. c. 1. §. 3. de stomach. defect.* But if vomiting of Blood happen in such as have an exorbitant Ferment of the Gall and Spleen, for it Practitioners apply Remedies to the Spleen, *Grembs* has found the following Plaster do good. Take of Flour of Barly, Acorns, Root of Comfrey each one Ounce and an half, Blood-stone two Drachms, red Saunders a Drachm and an half, Mastich one Drachm. With Plantain Water and red Wine, each what is sufficient, make a Plaster. Nor does the foresaid noble Author condemn Opiates, which wonderfully abate the fury both of the *Archæus* and *Pylorus*, and are approved Medicines in all these Diseases.

§. 16.

UU *Illis*, as well in the Heart-burn, as in Belching and slow Vomiting, that depend upon a corrupt Ferment, besides universals, advises divers absorbents, such as Crabs-eyes, Amber, Cinnamon, Ivory, &c. and he highly commends the virtues of the following Powder.

Take of *Avum* Root prepared six Drachms, Powder of *acorus*, Burnet each half an Ounce, Crabs-eyes three Drachms, Cinnamon, Salt of Worm-wood, Man's-skull prepared, Powder of Coral, Ivory, Vitriol of *Mars* each one Drachm. Mix them. With a

sufficient quantity of Sugar make a Powder. Or,

Take of Powder of Ivory, Crabs-eyes, Coral each two Drachms, red Sanders, Cinnamon each half a Drachm. Mix them. The Dose is half a Drachm.

In a sharp and hot Vomiting according to him, Medicines endued with a lowre vitriolick Salt are proper. Some Salt of Worm-wood may be given in Juice of Limon. Or,

Take of red Coral prepared two Drachms, Salt of Worm-wood one Drachm and an half, Juice of Limons three Ounces; let them stand in a large Glas. Add of Cinnamon-Water two Ounces. The Dose is a Spoonful or two.

Iron and Nitre Waters are good. Nor does he despise Opiates and other Narcoticks, taken inwardly and applied outwardly, as there is occasion. He also applies Plasters, Unguents, Oyls and stomachick Fomentations to a weak Stomach.

§. 17.

S *ylbius* in the Heart-burn, Vomiting, Squeamishness and Belching, that have their original from viscid, sharp Humors, gives gentle Aromaticks in the Fit. Here is a Receipt;

Take of Water of Fenil, Mint each one Ounce, Cinnamon six Drachms, Syrup of Mint half an Ounce. Mix them. Let the Patient take a Spoonful or two between whites.

And

And if the Vomiting be very violent, and extreme painful, he does not forbid, but rather advises, the adding of a Grain or two of *Laudanum opiatum* to this mixture.

He cures Vomiting of Blood, which comes from some broken or eroded Vessels of the Stomach, Guts, *pancreas*, or some other Part, by the well known, and most approved mixture in all Excretions of Blood, which follows;

Take of Water of Plantain two Ounces, Cinnamon six Drachms, distilled Vinegar half an Ounce, red Coral prepared half a Drachm, Dragon's-blood half a Scruple, *laudanum opiatum* three Grains, Syrup of Myrtles one Ounce. Mix them.

If there be also any fear of the coagulation of the Blood, he adds to the foresaid mixture Crabs-eyes or diaphoretick Antimony; or *bal-samus sulphuris anisatus*, if there be Pus.

And for discussing of Wind in Belching and Rumbling of the Guts, which lies in the Stomach or Guts, he approves of the following mixture or some such like.

Take of Water of Mint, Fenil each two Ounces, *aqua vite Matthioli*, *spiritus carminativus Sylvi*, each half an Ounce, Spirit of Nitre twenty drops, distilled Oyl of Mace six drops, *laudanum opiatum* three Grains, Syrup of Mint one Ounce. Mix them.

For he prefers Spirit of Nitre before all other Carminatives, because it both incides Phlegm, corrects Bile, hinders the breeding of Wind, and disperses it when bred.

And all Aromaticks and things endued with a volatil Salt do the same.

In heat of the Stomach he commends absorbents, Chalk, Coral, Crabs-eyes, Nutmeg, and several other things of the like nature.

The loathing of Meat, arising from the sick Man's prejudice will be cured by clearing his Mind of all prejudice, and by gradual using him to the loathed Meat. But if this loathing depend upon some fault in the Humors, the cure will ensue, if the peccant Humors be corrected or purged away. The vitious Humors may be corrected by the Medicines above-mentioned, and then we may purge them off either by Vomits or by things that purge downwards, especially if they be very tough.

§. 18.

NOW we and the Cartesians will encounter this Disease, and communicate those Medicines, which we have experienced to do good, for the sake of young Physicians, not of the old, and such as have arrived at the highest pitch of our Art, who need not our information, some of whom, out of prejudice or envy against younger Physicians, had rather remain in an error, than embrace the truth with these, and if (which is very rare) they do embrace it, they dissemble it.

If therefore the Heart-burn arise only from the impetuous violence of the Animal Spirits, we advise various antispasmodicks, and stomachick Specificks mixt with Opates, to which we usually add Powder of native Cinnabar, Amber,
Man's

Man's skull, or such like. Thus *Wideliuſ* immediately cured a Cooper who was troubled with the Heart-burn, and great Anxiety, only by taking a Doſe of carminative Eſſence with a few drops of the anodine. He cured another by giving him a precipitating Powder made of Shells, Crabs-eyes, Bezoartick Powder, Oyl of Cloves and *Opium*. But if it proceed from a viſcid and ſharp Matter, that puts the Animal Spirits into diſorder, we commend inciding things, yet appropriate ones, for abſorbents are for the moſt part general, and too univerſal Alterers, and therefore are not ſo directly oppoſite to ſpecial Diſeaſes, nor ſufficient for their cure. Theſe therefore, according to the variety of the ſpecifick Acid, that offends, and the more or leſs glutinoſity of the material cauſe, according alſo to the different nature of one or more, ſolid or fluid Parts, that are primarily or ſecondarily affected, together with the contrary ſort and diſpoſition of Humors, that are altered more or leſs, the complication alſo of divers Diſeaſes, and concurrence of more or leſs troubleſom Symptoms, do vary moſt frequently in theſe very things, as co-indicants; and one muſt cure as it were by particular means, and theſe muſt be dextrouſly joined with Abſorbents, as the moſt experienced *Etmuller*, of pious Memory, has obſerved in *diſp. Præcipitantium uſu & abuſu*. In the Heart-burn therefore we have found theſe things do good ſpecifically, Crabs-eyes, Amber, burnt Hartshorn, Ivory prepared wthout fire, &c. If an over viſcid and tenacious Matter vellicate the nervous Fibres, then ſpirituous and more inciding things are proper. Many

of our Patients have recovered by the following mixture;

Take of Water of Mint, Baſil each one Ounce, *tinctura anodyna*, Tincture of Amber, Cinnamon each half a Drachm, Oyl of Mace two drops, Syrup of Mint half an Ounce. Mix them. Give it by ſpoonfuls.

To which mixture I have with very good ſucceſs added a Grain or two of *Laudanum opiatum* or *theriacaleſtis*, and for Women we uſe to mix ſomething of Caſtor. Nor would we neglect the application of divers aromatick Oyls, Plaſters and Unguents to the Stomach outwardly. But if Wind cauſes oppreſſion about the Heart, or Heart-burn, diſtenſion of the abdomen, or difficulty of Breathing, then carminative things are good.

In Squeamiſhneſs and a ſpasmoidick Vomiting, if there be a Motion and gnawing at the Stomach, and painful Motions and Contractions of the nervous Fibres from a violent perturbation of the Animal Spirits, we fly to Opiates, and eſpecially to *laudanum cydoniatum Hofmanni*, or our *laudanum aromaticum* in form of a Pill. And we may add either Treacle or *conſectio Alkermes*, or a drop of Oyl of Cinnamon or Mint; for all theſe gently aſſuage the Membranous, and ſenſible fibrous Parts, to which we often join Cinnabarines, not omitting volatil oylly Salts, and we add tartariſate Eſſence of *Opium* to *liquor cornu cervi ſuccinatius*. *Pulvis ſtomachicus Poterii* will do well in this caſe, which follows;

Take

Take of *pulvis stomachicus Poterii* half a Drachm, Shells prepared, native Cinnabar each one Scruple, *crocus Martis saccharatus* half a Scruple, *Laudanum opiatum* one Grain. Mix them, and give it in Wine. It will open much.

Oyl of Nutmeg also will be very proper here, because Oyl tempers acidity, and by its spirituousity, and penetrance opens the Pores, especially if Salt of Wormwood be joined with it.

If too volatil Bile rise to the Mouth of the Stomach, and cause Vomiting, to stop this give a Scruple of Salt of Wormwood with half an Ounce of Juice of Limons, and a little Salt of *carduus benedictus* alone. Bile also may be purged with Rhubarb, as there shall be occasion. You may make such a Potion.

Take of choice Rhubarb three Drachms, Mace half a Drachm, Salt of Tartar one Scruple. Infuse them for a Night in Plantain, Mint and Cichory Water. To two Ounces of the Colature add of Syrup of Cichory with Rhubarb half an Ounce, Cinnamon-Water one Drachm. Mix them.

In enormous scorbutick Vomiting, where the Animal Spirits are moved violently, you may add Opiates to Martial Medicines, and others impregnated with a sharp and penetrating volatil Salt, and so we shall do a great many good things at once. So the *sal volatile oleosum Sylvii*, or volatil, sulphureous things, as all bitter and aromatick things, give great relief in any Vomiting. But what plenty

soever there is of other pharmaceutick Remedies, whereby Vomiting may be cured, I shall add no more, besides a few Externals, which have often good effect. There are divers Plasters of *Tacamahaca*, Mastich, *de crusta panis*, Treacle, or Leaven kneaded with Vinegar, and applied to the Stomach. The following Cataplasim seldom fails;

Take of Chocolate one Ounce and an half, *confectio Alkermis* three Drachms, Oyl of Nutmeg by expression two Drachms and an half, black Balsam of *Peru* two Drachms, Cinnamon one Drachm. With a sufficient quantity of Malmsey Wine make a Cataplasim.

Divers aromatick Oyls may be applied to the Stomach, Sack may be applied by it self, and several other things, which Practitioners will show you.

As for Vomiting of Blood, those things will be proper, which we advised for Spitting of Blood, especially if an acid Crudity mixt with a caustick *Alkali*, falling upon the Guts and sanguiferous Vessels (for preternatural acid Tasts and Smells do not only ly in the first ways, but they further penetrate the Body, as *Helmont* says *paradox. 5. §. 9. Oſtentimes there wanders about in us a certain mineral Salt dissolved, plainly excrementitious, I say a dissolved Tartar*) cause bloody Stools and Vomiting, then Absorbents mixt with divers Stypticks will do good, such as *Tinctura styptica Zwelferi*, and our Tincture of Corals, and a thousand other things mentioned before, which I have no mind to repeat. Sprinkle some sympathetick Powder on all that is brought

brought up; and let Blood if there be occasion. See the rest in the Chapter, *Of Spitting Blood.*

In Belching and Rumbling of the Guts, for correcting the peccant Acid, to check the violence of the Wind, and to hinder the breeding of it, we advise carminatives, or things to discuss Wind: for instance, a Drachm of dried Orange-Peel, or the Water of it drawn with Malmsey Wine, a Decoction of it, Conserve of Chamomil Flowers, Oyl of Aniseed, Caraway, Orange-Peel, and *elafacchara* made of them.

Take of Water of Fenil, Chamomil, *aqua carminativa* each one Ounce, *Spiritus carminativus Syllvii*, *theriaca celestis* four Grains, Spirit of Nitre dulcified five drops, Syrup of Cinnamon one Ounce. Make a mixture, to be taken by Spoonfuls.

Or our stomachick Salt in form of a Powder is an excellent Medicine, which is made of the *caput mortuum* of Spirit of Sal Ammoniac with Salt of Tartar and Salt of Worm-wood, it causes an Appetite. Also our Tincture of *terra Japonica* made with Spirit of Wine is a great *arcanum* with us in all Diseases of the Stomach. Wine of Worm-wood, Mint, &c. Is good to digest this acid Phlegm. Or.

Take of Conserve of Worm-wood, lesser Centaury, Rosemary, Mint, *confectio Alkermes* and Spirit of Salt. Mix them.

Elixir proprietatis Paracelsi and our *Elixir catholicum* or *polybrestum* will be proper. This acid viscidiry will also be cured by gly-

ing things, that temper or concentrate an acid Spirit, forbearing Purgatives, till the acid Humors are tempered, and reduced to the nature of *Serum*, which then nothing hinders, but you may purge off by Hydragogues. We get out this acid Phlegm, that produces Wind, at the usual passage by carminative Clysters, namely Aromaticks, which are best able to check its violence and impetuosity. By this alone I cured a Woman, who had been troubled above a year with Wind running up and down her Belly, which put her to as much pain, as if she had had the Colick.

Take of Leaves of Mallow, Horehound, Mercury, Penny-royal each one handful and an half, Roots of white Lily, Marsh-mallow each one Ounce, Flowers of Chamomil, Elder each one Pugil and an half, Zedoary Root half an Ounce, Seeds of Fenugreek, Line each one Ounce, Caraway, Cummin each six Drachms. Make a Decoction in a sufficient quantity of Mallow-Water. To one Pound of the Colature add and dissolve in it, of *Philonium Romanum*, *electuarium de baccis lauri*, Cassia for Clysters each one Ounce, Oyl of Rue, Chamomil each two Ounces. Mix them. Make a Clyster.

In this case also the Stomach and Guts receive great and present relief from Opiates, whereupon they cease from their painful twistings. I have no mind to mention any more Carminatives either internal or external, only I shall give you caution, not to make the Matter worse, but to be careful what you do. Among chirurgical means a large Cup-

Cupping-glass set to the Navil will be proper.

In Heat of the Stomach or *soda*, chalk above all things settle the ebullition, or burnt Harts-horn and Nutmeg are good together in this Disease, and the benefit will be more present, if they be mixt with Conserve or Syrup of Oan-buds, just as they are opening into Leaves, in form of an Electuary. Or Tablets may be made of these and other things.

Take of prepared Chalk one Ounce, Crabs-eyes half an Ounce. Wash them three or four times in Borrage-Water. Add of Bole-Armenick two Scruples and an half, red Coral prepared two Scruples, Pearl prepared one Scruple, Nutmeg half a Scruple, Sugar-Candy eight Ounces, with Rose-Water what is sufficient, make Tablets. The Dose half an Ounce, or for Children one Drachm.

In an extreme case Opiates, but in a little Dose, will be proper, as,

Take of Treacle one Scruple, *Laudanum opiatum* one Grain, prepared Chalk two Scruples, white Amber half a Scruple. Make a *Bolus*, with warm Beer.

Spirit of Salt, *Elixir proprietatis* and other Absorbents may be here made use of, inasmuch as they correct, soak up and invert the vitious fermentative Acid in the Stomach and first ways, and thereby drive away and check the foreign Humor, and so stop the *soda*. Also Crabs-eyes and Bole-Armenick, which by a certain precipitation take away the Acrimony from sharp

and acid Liquors, are good in this case.

In a lost Appetite, or loathing of Mear, either a defect or excess of an Acid may be observed; from the Defect come Squeamishness, want of Appetite, Inconcoction and other weakneses of Stomach. Wherefore in this case temperate Acids must be given, among which this following excels;

Take of *Elixir proprietatis Paracelsi* one Drachm, Spirit of Salt dulcified, Sal Ammoniac each half a Scruple. The Dose fifteen Drops.

Here also Salts of Worm-wood, Cichory, *carduus benedictus*, lesser Centaury and our Stomachick Salt will do good.

If viscidiry be also joyned with it, more bitter and aromatick things must be joyned with them, such as Aloeticks, Absinthlacks, Tincture of Worm-wood. Here is a receipt;

Take of *Elixir proprietatis* one Drachm, compound Essence of Worm-wood, Mint each half a Drachm. Mix them. The Dose is from ten to fifteen drops, Or,

Take of acid Spirit of Sal Ammoniac one Drachm, Essence of Mint twenty Drops, Tincture of Amber half a Drachm. Mix them.

If the Scurvy, as oftentimes it is, be joyned with loss of Appetite, then the following Electuary will do good;

Take

Take of Conserve of Scurvy-grass one Ounce, Orange-Peel, candied Elecampane, candied Ginger each half an Ounce, *Elixir proprietatis* one Drachm, Tincture of Cinnamon, Amber each half a Drachm. Mix them. Make a Conserve. -Or,

Take of *aqua zedoaria anisata*, *aqua antiscorbutica* each one Ounce. Mix them.

And if the Acid be entangled with viscid and bilious Humors, then Vomits must be given: for when the vicious Matter is ejected, the absorbent Acid is set at liberty.

If you find that the Ferment is over-charged and suppressed with the crude Particles of the Aliment, and that so the Tone of the Stomach is hurt, Aromaticks which have a sweet volatil Sulphur in them, and spirituous things, give great relief; but Vomits must be given first. To this purpose various stomachick Spirits may be given, especially *Mynsicht's*. The Dose is a Spoonful. For it is especially good against badness of Appetite, and corruption of Digestion. Malrasey Wine also often taken by it self has restored the Appetite. *Wedelius* his stomachick Tincture, which he calls his carminative Essence, is usually mixt with his anodyne Tincture in all these said cases.

Take of Root of Zedoary, Carline Thistle, Galangal each half an Ounce, Orange-Peel, Seeds of Anise Caraway, Flowers of Roman Chamomil each two Drachms, Cloves, Bay-berries, true *Acorns* each one Drachm and an half.

Mix them with Spirit of Citron-Peel sufficiently sharpened with Spirit of Nitre. The Dose is twenty Drops.

But if beside Crudities, this Acid also offend in quantity and sharpness, then we use to prescribe Antacids, various Absorbents, and we add volatil alkalis and other Absorbents to the former things. Here also our Tincture of life will be proper, which follows;

Take of Aloes, Myrrh each one Drachm, Saffron half a Drachm, with the volatil Spirit of Sal Ammoniac draw a Tincture.

We cannot in Words express the effects we have seen from this Tincture in this case: the usual Dose is from ten to fifteen Drops. Mix Spirit of Sal Ammoniac with volatil Spirit of Salt of Tartar, and add a little Oyl of Mace, you will have an excellent Remedy to soak up that Acid. This following also will do good;

Take of Cream of Tartar half a Drachm, Vitriol of Mars, Crabs-eyes finely powdered, each one Scruple, *species diarrhodon Abbatris*, coagulated Spirit of Salt, Sale of Worm-wood, Cichory each five Grains. Mix them. Make a Powder. The Dose is as much as you can take upon a Knife's point. Or.

Take of Crabs-eyes prepared, Coral prepared, Ivory prepared without fire, *Crocus Martis aperitivus*, each half a Scruple. Mix them.

If you add some aromack Oyls to these Powders, you will more concentre the Acid.

In loathing of Meat also Externals must not be neglected, and then divers Balsams, Plasters, Liniments and Cataplasms will be proper; and external aromack oyl things will be good in this case. Here is a Receipt;

Take of Oyl of Nutmeg by expression half an Ounce, Mastic, Mint each two Drachms, *calamus aromaticus* half a Drachm, Caraway, Cinnamon each ten Drops, Mace five Drops, Balsam of Peru two Drachms, white Wax what it sufficent. Mix them.

This very much strengthens a weak Stomach. Also Crato's stomach Oyl, *tacamabaca*, and *ceratum ex ladano Stokeri* will be proper. This is an excellent mixture;

Take of *spiritus theriacalis*, stoma-

chalis cum aqua vite albus each one Ounce. Mix them.

If you like a Plaster, beside the *scutum stomachale Hartmanni*, this following is in use with us;

Take of choice Mastic one Ounce and an half, *tacamabaca* one Ounce, resin of *storax calamita* half an Ounce, Oyl of Nutmeg three Ounces, of Worm-wood distilled one Ounce, Balsam of Peru two Drachms, Wax what is sufficient. Make a Plaster.

And our balsamick mixture, made of Chocolate, Oyl of Nutmeg by expression, Balsam of Peru, Cinnamon and Malmsey-Wine, applied to a weak Stomach, is none of the worst Medicines. But since such Remedies may be met with every where, I shall not be prolix in them, but proceed to more necessary business.

CHAP.

CHAP. II.

Of the Hiccough.

§. 1.

NO one Part in the Body has greater sympathy with all the rest, than the Stomach. For it appears by anatomical demonstration, that the Diaphragm is not only near to the Stomach, but has also a common Coat, and the same Nerves inserted into the Mouth of the Stomach, so that of necessity, when the Diaphragm is affected, the Stomach for company is drawn into a troublesome sense. The Hiccough is commonly described to be, a convulsive Motion of the Diaphragm, returning by Fits, depending on the irritation and vellication of the nervous Fibres of the Mouth of the Stomach by a saline Acrimony.

§. 2. *Part affected.*

MOST of the Ancients take the Part affected to be the Stomach, both in its upper and lower Part. For they will have it to be primarily affected, and the Diaphragm by consent. And they endeavour to prove by Signs, that these Parts are hurt, to wit, because some fault in the Meat and what is ta-

ken, precedes, and either Vomiting, Loathing, Pain in the Bowels, Heaviness in the Stomach, or sometimes Distension by Wind, accompany it. Others, treading in their steps (especially Sylvius l. 1. P. M. c. 23. §. 9.) give out, that the Diaphragm, or *septum transversum*, is the Part primarily affected, and they prove it, because it is a voluntary Motion; and Sylvius and others could raise an Hiccough at any time, whenever they pleased. But we take the Stomach, as to its Fibres and Nerves and Coat, common with the nervous Diaphragm, (and therefore enclined to interpolated Motion) and firmly knit to it, to be the Part primarily affected, for the reasons abovesaid, and especially because we find by daily experience, that this Disease is caused by abundance of Errors in Diet, and a load of ill Humors gathered in the Stomach. And to make the matter more clear, I will give you a case of a certain Man's Daughter, whom I have now under cure:

B b 2

§. 3.

§. 3. *A Case.*

A Girl of a cholerick Constitution, thirteen years old, has now been afflicted a whole year with a troublesome Hicough, which takes her four or five times a day, and holds her sometimes half an hour, sometimes an hour. And all the last Winter it afflicted her grievously, but in Summer she was almost free from it, so that it was a long while ere it returned, sometimes but once in three Months; but when Autumn came on, it returned with its former trouble and violence, and continues still. The Parents, being sollicitous for their fair Daughter's health, implore our medical assistance. And (blessed be God) I successfully restored her by the Medicines hereafter mentioned.

§. 4. *Diagnostick.*

I thought it worth the while to produce the Signs, whereby we define the imminent or present Condition of the disease. There precedes a loathing of Meat, pain in the Stomach, heaviness, and sometimes Vomiting. As for the essential inherent Signs, they need not be anxiously inquired, since this depraved Motion perceptibly manifests it self at a distance to the Eye and Ear: For it does not only return frequently upon the Patient, but it is sometimes so violent, that all the Body is shaken with the Diaphragm, so that one would think the very Ribs would be broken by the violence of the Motion. In a desperate case Swooning and Convulsions do follow. If it come upon a Fever, as it often does,

then there is great thirst, weakness, a quick Pulse, want of Sleep, a trembling Motion in the under Jaw, *delirium*, impudence, sometimes a slimy Looseness, and many other Signs, which a prudent Physician may easily find out.

§. 5.

THE *Phænomena* being premised and examined, it remains, That not only the proximate cause of this Disease be enquired into, but that the remote ones be brought upon the stage also, about which hitherto the Medical Schools have been of different Opinions; but I shall not examine all of them at present, let the principal suffice. And we will begin with the *Effluents*, who make the immediate and proximate cause of this, as they do of a Convulsion, to be inanition and repletion; and they add a third, namely, irritation, made by a sharp Matter, or by sharp and malignant Vapors. And they prove it by this, That in pestilential and burning Fevers many pernicious and sharp Vapors rise to the Mouth of the Stomach, yea and to the very Diaphragm, and then Men are vexed and afflicted with a grievous, and almost always mortal Hicough. Biliou, sharp, salt and viscid Humors, and Wind also, according to them, may cause this Disease, and so Inflammations of the Liver and other Parts are apt to cause it. They do not deny, but a Hicough may be caused by the corruption of Aliment turned sharp, and by sharp viscid Phlegm clinging to the Coats of the Stomach. They prove also, That this Disease may come upon inanition, because it often happens
after

after immoderate Evacuation by Stool, or Vomit, or Sweat, also after a long Flux of the *Menses*, *Lechia*, &c. after a Dysentery, long Fasting, a great Wound, and things of the like nature.

§. 6.

NOW we will proceed to the *Paracelsian* Chymists, who accuse a vitious Tartar, that is exorbitant in the Stomach, and does injury to the Stomach and Diaphragm.

§. 7.

HELMONT, that acute observer of Errors in the Ancients, will have the Stomach to be contracted in this Disease, and that indeed by a foreign, salvage Acid, by which hated Guest the Stomach is strained; for the expulsion whereof the *Archans* does rise by its motive *Blas*, but its power, being too weak, falls. And so there are interpolated contractions in the Membranes of the Stomach, as often as the troublesome cause is occasionally moved, or recurs.

§. 8.

AUILLIS and SYLVIVS in this Disease blame the Animal Spirits, raging tumultuously, and inciting to such a spasmodick Motion. Yet *Sylvius* does not deny, but for the most part an Humor, or some sharp Wind, which by their Acrimony may irritate the Nerves and Fibres of the Stomach, and so of necessity draw the Diaphragm by consent into this convulsive Motion, may cause this Disease. So he has often observed it

caused by corrupt and sharp Food, and by Poysons and Purgations. For all things, which can so affect the upper Orifice of the Stomach, that the Diaphragm may be also affected, are able to produce this Disease; as likewise if the same, being contained in the *Thorax* or *Abdomen*, immediately bite the Diaphragm, or being carried to it by its Vessels, and sticking in its substance, corrode its sensible Parts, or any other way force it to that troublesome and convulsive, solitary contraction of it self, which ever and anon returns.

§. 9.

THE Cartesian hold, That the Hiccough has its rise from disproportionate and rough Particles, which vellicate the Diaphragm, and put it into such disorderly Motions. For the Fibres of the Nerves of the sixth Conjugation, implanted in the Stomach and Diaphragm, are here so vellicated, that they by their Motion carried to the Brain do now and then open such Pores in the Brain, by which the Animal Spirits flow violently into the Mouth of the Stomach, that they again contract the Fibres designed for expulsion upwards, so that the Patients at certain times expect the contained Air out of the *oesophagus* with such violence, that one may perceive it make a singultive noise. And when this sharp Humor is dissolved by singultive Motion, the Hiccough ceases; and when it is again brought to the *oesophagus*, the Hiccough returns.

§. 10.

WE think, that the Stomach, by a peculiar artifice, elaborates a certain volatil Salt, and communicates it as necessary and useful to all Parts, and the whole Body: But if this degenerate into acid and rough filth, and that stick fast to the upper Orifice of the Stomach, that then by consent of connexion the Diaphragm is irritated, and convulsively contracted, and that by this convulsive Contraction, a noise is made, and so a Hiccough is caused. And we think, That such a volatil Salt may be charged, if filth brought from other Parts infringe it. as we see in malignant Fevers, Dysenteries, &c. such Filth is sent to this unhappy place, as causes an Hiccough. The Animal Spirits also may here contribute much, when by an amicable motion of irradiation, they ventilate fluids. I am fully persuaded, that an acid and sharp Salt is a cause, when it predominates about the Coat of the Stomach, which is common with the Diaphragm. As is apparent in our case: for the Hiccough troubled the Girl all Winter, because the Acid was encreased by the cold; on the contrary in Summer it gave respite. But when the Autumnal Cold returned, that kept the acid sharp Matter in the Body, the Hiccough returned frequently and violently upon her. Nor will we except Wind condensed about this place, and as it were imprisoned, which by its Acrimony irritates these Fibres, and excites them to this convulsive Motion.

§. 11.

AS to the Prognostick, the Disease, because a most noble Part is affected, is most grievous, and oftentimes incurable; and it is so much the worse, if it come upon an inflamed Liver, or after Vomiting, the Iliack Passion, over-Purging or excessive Bleeding; or if it be accompanied with a malignant Fever or a Dysentery. For Hippocrates in *Coacis* says, *If one have the Hiccough in a violent Fever, he is sick of a very bad Disease*: The Hiccough also coming upon Swooning, or a distention of the Nerves, or a *delirium*, is accounted Mortal. If it accompany Inflammations of the Liver, Womb, Brain, or a great Wound, there is danger, but especially if a *delirium* or Convulsions follow: for then death is in the pot. But if it come at the time of the *Crisis*, and the rest of the Signs be good, we need not despair. For I have seen several in such a Condition escape. Wherefore what *Vallesius* says, is not to be regarded; namely, That he never saw one, who was wasted with a burning Fever, or sick of a malignant one, taken with an Hiccough and recover. In hysteric cases an Hiccough need not be feared; for oftentimes it goes off without any danger.

§. 12. Dietetick cure.

NOW we will add the course of Diet, which here is of great moment. The Air for the vital Faculty must neither be too hot nor too cold. Not excessive hot, lest the Acrimony be encreased thereby; nor cold, lest it encrease the

the Acid; as you may observe in the foregoing case. Let it therefore be pure and temperate, not tainted with strange, fetid Atoms; but if it be, it must be corrected by Fumes of Mastich, Frankincense, Amber, *Syrax calamita*, Lignae-loes, &c.

The natural Faculty requires Meat easie of digestion, without any Acrimony; Saltiness and too much Acidity. Therefore Oat-meal and Barly-grewel, the Broth and Flesh of Chickens, Capons, Hens, but they must not be very fat, and potched and reer Eggs are approved of. But cold, sharp, salt things are hurtful, such as Flesh powdered and smoak dried, and Fish also, all horary Fruits, and all windy things which can fill the Stomach with Crudities. For from these and such like bad Meats are gathered putrid, salt, bilious, sharp, acid and viscid peccant Humors. The Drink may be Beer well defecated, not stale and sowre, with a Toast in it. Wine also is proper, corrected with various stomachicks, and altered with the cordial Tincture, or with Tincture of Daisy, Violets, or Harts-horn.

The Animal Faculty requires moderate Motion, lest the Disease be prolonged, and that one ly quiet in a warm Bed; for too much Motion promotes an exagitation of the heterogeneous Particles, and thereby drives an Acid lying in the Blood, or any where else, to the Part affected; and so the Disease may easily be produced. One must do all he can, to sleep: for want of it disturbs the Spirits and Humors.

The Passions of the Mind must keep within bounds. When Men are disturbed with anger, or struck

with grief, the Disease grows worse. For it is known to every one, how anger draws the Nerves, disturbs the Humors, and stirs up the rage of the Bile. So grief likewise may do harm, as it puts the Spirits to flight, and so may give occasion to this Disease.

As to the *excreta* and *retenta*, they must be conformable to the Laws of Nature, either by Art or Nature.

§. 13. Pharmaceutick Cure.

IT is now requisite, That we briefly add the Pharmaceutick and Chirurgical Cure. And first of all the old Galenists endeavor to make the peccant Matter (that is, if the Disease come from repletion) whether it be cold or hot, obedient to Nature by Preparers. If the Hiccough come from a viscid and pituitous Humor, then they use *Syrupus de duabus radicibus, de stœchade*, Oxymel of Squills, a Decoction of *Asarum* root, Galangal, Elecampane, Horehound, Cummin Seed, &c. But if it come from a hot sharp Matter, then they prescribe Syrup of Roses, Vinegar, of Juice of Endive, Barly-water and other temperate Coolers. Then they endeavor to evacuate all peccant Humors from the Body by some convenient Purge. They give a Vomit with Warm-water, adding a little Syrup of Endive or simple Oxymel, or they give half a Drachm of *Asarum* root, or they purge downwards with *diaphanetum*, *hiera piera*, aromatick Stomach-Pills; and they add a little Castor in a cold Cause, and in a hot one they commend Rhubarb, Manna and Cassia. Then they hin-

E b 4 der

der the flux of Humors to the Stomach by Avertents; such as Ligatures, hard Rubbings, Cupping-glasses with much flame set to the Back, Shoulders, Navil, and afterwards to the Pit of the Stomach, especially if Wind be in fault. Cold Water may be thrown in the Patient's face, to fright him, which often makes a Man hold his Breath, and so by consequent the Hiccough is observed to go away. He may rub his Ear with his little Finger. The extreme Parts of the Body may be washed in a hot Bath. *Myrepsus* commends *antidotus à croco Esdrae*. If the Hiccough proceed from inanition or acrimony, they give divers fat Broths, Barly-water, Milk of Goats, Asses, Cows, and such like moistning Foods; Cock-broth, Oyl of sweet Almonds, Mucilage of Seed of Fleawort, and other things, which according to them are good to correct Acrimony. They do not despise Syrup of Violets, white Poppy, Water-Lily, and *philonium Romanum*. A Bath also of fresh Water is good. Among externals they apply divers Plasters both to the Stomach and Liver. To the Liver they apply *emplastrum santalinum*, to the Stomach *emplastrum de crusta panis*, and *tacamahaca*, and they advise the applying other hot and temperate Oyls, Violet, Mastich, &c. to the Stomach and *Spina dorsi*; but you may your self gather more out of Authors.

§. 14.

NOW we will search the Chymical Boxes. The Chymists in this Disease highly commend volatile Acids, those excellent Medicines, which were not formerly

known. These in the mean time will be proper, *mixture simplex*, *tinctura bezoardica Michaelis*, Spirit of Salt about four Drops given in *aqua vite*, or Tincture of Coral, or Gold, or Precipitants, Harts-horn, Crabs-eyes, and many other such like Medicines, which we shall hereafter mention.

§. 15.

Helmout commends divers spirituous and volatil things, as good to rouse the lazy *Archæus*: for he will have this Disease to be cured by *Arcana*, and he highly commends his *arcantum sedativum*. His Scholar *Grembs* commends Iron-Waters.

§. 16.

AUillius does no where expressly treat of this Disease; yet since he takes it for a convulsive Motion, all things that in his Opinion are good for convulsive Motions, will also be good here.

§. 17.

Sylvius, whenever bad Food or Medicines or Poysons are contained in the Stomach, does first temper them, and then carry them off by antimonial Purges. For tempering, he prefers Narcoticks before all others, inasmuch as they do not only temper any sharp Humors, but moreover dull the Sense of the Stomach, and render the impetuous Animal Spirits slower of Motion. But in evacuating the Humor by Vomit, after he has used Narcoticks, he advises *sapa antimonii*, or *tartarum emeticum*, or Anti-

Antimony so prepared, that it will only purge the peccant Matter by Stool, yet he will have these Catharticks given but in a small quantity, because these Antimonials, if they do remain in the Body, do no harm, as the vulgar think; but (which is more) they do good, by amending the noxious Humors in the Body, or by further preparing them for a following Purge, as he has tried a thousand times. If the Patient be not inclined to Vomit, nor nauseous, it is better to evacuate the peccant Humors downwards, by Phlegmagogues, Cholagogues or Hydragogues, or by a mixture of them, according to the various mixture of the Humors. And when viscid and thin Humors are peccant, he magnifies the Pills of Gum, which I have communicated already. The Patient may take three or four of them when he goes to bed. And in this case the Apozem described, *l. 1. cap. 2. §. 35.* will do good.

But if Vomits and Purges be vomited up again as soon as they are taken, and the Patient be tired, an aromack mixture will be proper, as well to dissipate the troublesome exhalations about the Stomach, as to stop the Hiccough. For instance;

Take of Mint-Water two Ounces, *aqua vite Matthioli* or *theriacalis simplex* half an Ounce, *consellio Alkermes* one Drachm, *laudanum opiatum* two Grains, Syrup of Mint one Ounce. Mix them. Let the Patient take a Spoonful or two of this Liquor, and compose himself to sleep.

And when the Hiccough is a Symptom of some other grievous

Disease, of a Fever, namely, or Inflammation, &c. it ceases of it self, when that is cured; yet it may do no harm in the mean time to mix Opiates with Diaphoreticks and acid volatil Alexipharmacks: for so you will kill two birds with one stone.

§. 18.

THE Cartesians for siling and turning those pointed and rough Particles, that vellicate the Diaphragm, commend all hard and ponderous things, such as Crabs-eyes, Coral, Filings of Steel, Gold, *Mercurius dulcis*, yea and Opiates. Nor do they neglect giving of Purges, as there shall be occasion.

§. 19.

NOW it is our turn to propose our own Method of Cure. From whatsoever cause therefore an Hiccough comes, if it continue perniciously, we give a Vomit to evacuate the sharp, acid Humors, if the Patients strength will bear it, of *Oxyssaccharum emeticum Angli Sale* (in whose Desks there still ly hid many sacred Medicines) or *tartarum emeticum Ludovici*, or seven and twenty Grains of the Powder of *asarum* root. But if Squeamishness and other Signs of Vomiting be wanting, we betake our selves to gentle Purges: for we would forbear violent Purges, especially if the Motion be plainly convulsive, by reason of the great tumult which they cause in the Spirits and Humors, because they rather encrease than diminish the Disease. Yet gentle Purges may be given in divers forms, for Instance, Rhubarb, cor-

Corrected *Senna*, Raisins and Mechacacan, an Infusion whereof is said to have given *Ferdinand* present relief in a pertinacious Hiccough of twenty Days. The following Pills are good;

Take of *massa pilularum marocostinarum* one Scruple, *extractum theriacale* four Grains, Essence of Castor one drop. Mix them. Make Pills for two times. Roul them in prepared Harts-horn. They both correct and purge.
Or,

Take of *Scorzonera* root half an Ounce, yellow Rhubarb one Drachm and an half, Leaves of Oriental *Senna* two Drachms, Cummin-seeds, Cinnamon, Zedoary each one Scruple, Currans one Ounce, the four Cordial Flowers each two Pugils, Cream of Tartar two Drachms. Boil them in a sufficient quantity of Spring-Water, and make an Apozem for two times.

To such as are weak, we would recommend sweetning Clysters instead of Purgers. For instance;

Take of the carminative and emollient-Decoction one Pound; add of *Electuarium benedictum laxativum*, Oyl of Rue each one Ounce, Sal Ammoniack one Drachm, the Yelk of an Egg. Mix them. Make a Clyster.

Absorbents follow Purgatives, which are able alone in a manner to cure this Disease, by soaking up those sharp acid Humors that stick and cling to the Stomach and Fibre of the Diaphragm, and sollicit them to an elastick Motion. But

here Appropriates or Specificks must be chosen: for the peccant Acid in an Hiccough differs from another acid; yea the variety of these Acids can scarce be determined, for all Practice in special depends upon this business, yea and experience also is required, because a special Antacid is required to sweeten a special Acid. Here is the difficulty, In the hypochondriack Disease there is one Acid, in the Heart-burn another, and in a *Gonorrhoea* another, every one of which therefore has its specifick Medicines. Therefore to soak up the Acid, that is specifically peccant in the Hiccough, *Joel* commends burnt Harts-horn given in red Wine, which is a Remedy often approved by us; it would be more excellent, if prepared Coral, and a drop or two of Oyl of Cinnamon, Cloves or Aniseeds were added. Here follows an excellent Powder;

Take of native Cinnabar or *Mercurius dulcis* one Scruple, red Coral, Harts-horn prepared without fire each fifteen Grains, prepared Pearl ten Grains, *theriaca celestis* *Honobinsis* twelve Grains, Oyl of Castor, Cloves each two drops. Mix them. Make a subtil Powder. The Dose one Scruple.

This Powder never failed us given in Cinnamon and Quince or Mint-Water. For it tempers all acid and sharp things, and asswages all membranous and sensible fibrous Parts, when corroded or vellicated by sharp Juices. The virtue of Opiates can never be sufficiently commended; for they not only procure Sleep and ease Pain, but

but they also correct an Acid, and make all things quiet, which if they be joyned with appropriate Precipitaters, the business will succeed the better, as *Wedelius* has observed in *opiolog. l. 2. f. 2. c. 4. p. m. 166.* who mixt them with Castor in a Liquid or solid form, and gave them with great success in any Hiccough, but especially in a convulsive one, and never failed of his end. So we not long since found the effect of Opiates in a Hiccough joyned with an Epilepsy; for they check the violence of the Spirits, and make them slower, which their well known effects, somnolence and indolence, do testify. For the Animal Spirits in the œconomy of the Body are not only the prime Authors of all local Motion, but of life also. For they are the highest Wheel, which turns all the other Wheels in the Body (like an artificial Clock-work) as the Lord *Virulam* does ingeniously discourse. As long therefore as that elastick violence of the Spirits lasts upon the Diaphragm, as we said before in *S. Of the Cause*, so long the Hiccough will not cease: But when the motive violence of those Spirits is a little stopp'd, and their radious Influx a little hindered, the Tone of the Fibres will cease, the easy reception of Sensibles will at the same time abate, and the motive straining of the Fibres of the Diaphragm will languish, and so all will grow sedate. And all this you may obtain by *Opium*, for it is a stout conqueror of the Spirits. Here are Receipts;

Take of extract of Castor, Zedoary each four Grains, *laudanum opiatum* two Grains and an half

Mix them. Make six Pills for two Doses. Or,

Take of Essence of Castor, Treacle each one Scruple, *tinctura anodyna Widellii*, or *cum spir. tartarissat*, half a Drachm. Mix them. Give twenty Drops or more for a Dose.

If a malignant Fever, Dysentery, or Small-Pox, &c. accompany the Hiccough, then Alexipharmacks must be mixt with Antispasmodicks and Opiates. For example;

Take of *pulvis Pannonicus ruber*, *bizaroticus Sennerti* each one Scruple, *specificum cephalicum* half a Scruple, Bezoar-stone, *theriaca celestis* each four Grains. Mix them. Make a Powder. Take as much as will ly on a Knife's-point in the following or some such like Vehicle;

Take of Water of Borrage, Bugloss, *aqua antispasmodica nostra* each one Ounce, Cinnamon one Ounce and an half, Syrup of Ectony six Drachms. Mix them.

In a windy Hiccough *Hoffman in clavi Schroderiana* commends this following;

Take of Water of Dill, Cummin each half an Ounce, Oyl of Aniseed, Caraway, Cummin each three Drops. Mix them. The Dose is a Spoonful or two Morning and Evening.

In this case let the Patient chew Aniseeds continually. Here also all volatil oily Salts will be proper. This is the internal Cure.

External

External topical Remedies also deserve great praise in this Disease. I can affirm it upon experience. The best of them are a Cataplasim of Treacle, of Leven, and that of *Mysichs* against the Hiccough applied hot to the Stomach between two linen Cloths. *Timeus à Guldenklee* promises the same from a Cataplasim of Oak ashes wet with Malmsey Wine. Or this following one of *Michael*;

Take sowre Leven two Ounces and an half, Powder of Mint leaves one Ounce, Zedoary half an Ounce, Seeds of Cummin, Caraway, Anise each two Drachms, Vinegar of Roses what is sufficient. Make a Cataplasim.

Or the following Plaster, approved by my experience;

Take of *Emplastrum de bacis lauri*, *stomachalis Cratonis* each one Ounce, Chocolate of *Sevil* half an Ounce, Oyl of Castor half a Scruple. Mix them. Make a Plaster.

Or our balsamick mixture, especially in Children, will not fail you. Or a Crust of Bread besprinkled with *aqua Anhaltina*, which has often done good, applied hot to the Stomach. Or Swallows cut open alive and applied hot to the Stomach, stop the Hiccough, as it is a convulsive Motion of the Diaphragm. *Rodericus à Fonseca tom. 2. consult. 27.* magnifies a Fomentation of sharp Vinegar, Castor and Mustard applied hot with a Sponge to the Stomach. These may serve for Bags;

Take of Flowers of Chamomil, Calamint, Rosemary each three Pugils, Tops of Mint, Sea-wormwood, Horehound each one handful, Citron Peel, Mace, Galangal each two Drachms, Seeds of Cummin, Caraway, Anise each half an Ounce, Castor half a Drachm. After they are cut and grossly bruised, quilt them in a Bag, and besprinkle them with *oleum carminativum Mysichri*, or Oyl of Mint, what is sufficient.

For Poor People;

Take Leaves of Worm-wood, Mint, Juniper-berries each one handful, Mace, Aniseed, Caraway, Nutmeg each one Drachm. Besprinkle them with Wine and Vinegar, and apply them to the Stomach.

These things we had from the pharmaceutick Fountain; now follows the chirurgical, whence we may take several generous Remedies in this Disease. Thus by the advice of *Fonseca*, *Zacutus Lusitanus* and several experienced Authors, we may apply a Cupping-Glass with much flame to the Stomach. And we do not contemn Ligatures and Frictions of the extreme Parts, for revulsion sake. And according to *Claudius* his counsel, we swath the Body, to keep the Diaphragm from contracting it self with that violence. See *Willis de hysterica passione*, so likewise a gentle Hiccough may be stopt by holding ones Breath, which, with *Sylvius*, we make no scruple to advise. And if a Man be plethorick, and there be an Inflammation

on of any Part, we would advise Bleeding, for to cool the Heat of the Blood, and to retard the Animal Spirits. In a gentle Hiccough, not only holding ones Breath, but Sneezing often does good. And I know a Man, who cures the Hiccough by whispering, I know not what, in the Patient's ear. The reason of this perhaps is, because the thoughts of the hiccoughing Person are diverted another way.

CHAP.

C H A P. III.

Of a Looseness, called Diarrhœa, Lienteria and Cœliaca.

§. I.

Good Ingestion, Digestion and Egestion may well be termed perfect Health. For it is well known, how necessary it is for a Man to refresh his Body every day with Meat and Drink; and it is as necessary to discharge the Excrements every day, that are gathered from them: And hence it is, That provident Nature has contrived and made several Canals and Sinks, to carry off the Excrements of the Body. If any one or more of them be hurt, or if these Emunctories be too much sollicitied, there arise divers fluxes of the Belly, of which we shall give you first of all three kinds: A *diarrhœa*, from *πῖς* to run or flow, and it is a frequent and plentiful going to stool, whereby various and liquid Excrements are voided. A *Lienteria*, which is as much as to say, a Smoothness of the Guts, which is described to be, a Looseness, in which Meat is voided whole, and looks as when the Patient swallowed it. And the *Cœliaca Passio*, is, a voiding of Food, that is fermented indeed, but it is only confusedly. Now because these three Diseases differ but

very little among themselves, I have a mind to treat of them all together, lest we should tire our Reader with repetitions.

Now we will describe a *Diarrhœa* our own way; and we take it to be a voiding of divers, but liquid Humors, arising from a spasmodick irritation of the Fibres of the Guts, and a coarctation of the small Glands lately found in the Guts (out of whose *Plexus's*, as out of a Spring, the Humors arise.) And so we think a *Lientery* and *Cœliack Passion* are Diseases of the Stomach, and more particularly, of the orbicular Fibres, which are found in its second Coat.

§. 2. *Part affected.*

Authors do make the Subject of these Diseases very dubious, some will have it to be the Guts only, others the Stomach, and some, both the Stomach and Guts, so that you cannot well tell with which Party to side. We take the Subject to be the Fibres of the Stomach, and the Glandules of the Guts, which are usually hurt, irritated and spasmodically contracted. For the contraction of these

motive Fibres is attended with a manifold Motion of the contained Fluids; that is, whenever any Part is at the sense of something troublesome and noxious, affected with a disordered and impetuous vibration of the sensible Fibres, the violence of the Spirits is moved at it, by which the hurt of the Fibres is increased, and their spasmodick Motion is more or less performed. And when these Fibres and Glands are contracted, the lymphatick, chyliiferous Vessels, and all the Passages and Emunctories of the Part are strained more or less, and thereupon either the Passage of the Contents being stop't a while, there is a stagnation about the Part so affected, whence comes a Tumor: Or there is a very plentiful Effusion of these Contents by ways usual or unusual, yet open or not difficult to be opened, according to circumstances, which causes these disturbances.

§. 3. Diagnostick.

THESE three Diseases have no great need of enumeration of many Signs, since they are such as manifest themselves to the by-standers as well as the Physician: but since they differ among themselves, we shall add a few things for distinction sake. In general there are Belchings, Wind, Restlessness, puffing up of the Belly, Rumbling in the *Hypochondria*, Pain in the Loins, loathing of Meat, Thirst, Risings in the Stomach, Gripes, and at last comes frequent going to Stool. In a *Diarrhoea* the Excrements are bilious, *i. e.* yellow; or black, that is, acid, or pituitous, or serous, or stercorous and fetid, or ash-coloured, or white like Chyle,

or chalky (as I observed in a Shoemaker not long since) or fat and like tallow (as is usual in consumptive Persons) or gravelly (as I observed in an old Man, who together with Gravel voided a Stone of an Ounce weight.) A *Lienteria* is known by the like constant Excretion, differing nothing from the consistency, colour and smell of what is taken, so that the Meat looks just as when it was eaten. Yet it must not presently be taken for a *Lientery*, after a Man has eaten Lentils, or any hard Meats, that are difficult of Concoction, if he void them whole by Stool, but when there are the Signs above-said, and sharp and bilious Stools do also appear. In a *Cœliaca* the Excrements usually come white like Chyle, Nutrition is diminished, and there are Belchings and Distensions of the Belly. Now we will proceed to the Causes.

§. 4. Cause.

THE old Galenists reckoned the immediate Cause of these Diseases, to be the expulsive Faculty stimulated and irritated by the four Humors; nor do they excuse Wind: for they prove, That Vapors and Wind offend through weakness of Heat, by the rumbling and fluctuation of the Guts. So *Hippocrates*, *l. 2. de Diata*, cap. 19. testifies, That corrupt Chyle heats and disturbs the Body; wherefore *Paulus Aegineta* calls a *Diarrhoea* a corruption of the Food. Sometimes in loosenesses Men void bilious Matter, sometimes melancholick, sometimes phlegmatick, sometimes crude and sometimes concocted: And therefore they blame the intemperature of the Stomach.

§. 5.

THE Chymists, according to their Principles, accuse a dissolved Salt, which by its Acrimony stimulates and irritates the Stomach and Guts, and their Fibres and Glands, to which it sticks, from whence they do not question but Loosenesses have their original.

§. 6.

Helmont will have the rage of the *Pylorus* to be the only cause of a Looseness; because the *Pylorus* is the ruler of the whole œconomy of the Stomach, unto the *intestinum rectum*. In general he blames the fault of the Digestion; in particular he accuses a per-
vicacious Acidity of the Ferment, the dissent of the *Pylorus* and Ferment of the Gall, and the exorbitance hereof, an acid corrupt Chyle, and any mucous stuff that sticks to the Guts. From whence he derives various Fluxes of the Belly.

§. 7.

Millis affirms, That any sharp, serous and bilious Humors, when they suffer a *fluor* in the Mass of Blood, are carried towards the Stomach and Guts by the Celiac Vessels, and while they abound there, may cause various and horrible Fluxes of the Belly.

§. 8.

According to the Sybian hypothesis, a Diarrhæa usually arises from a vitious Effervescence of

the Juices in the Guts, by reason of a sharp and saline Bile, that stimulates the Guts. In a Celiac Flux they think the Motion of the Chyle is preternaturally vitiated, in which Chyle together with the Excrements is voided by Stool: wherefore he would have it called a chylous Looseness. And he ascribes the cause of this Disease to an Obstruction of the lacteal Veins, and of the rough crusty Coat: wherefore in the Cure, he advises the opening of these Veins.

§. 9.

THE Cartesians think, that great store of Humors is precipitated out of the Blood, by the Vessels, that open into the Guts, whereupon the Fibres of the Intestines are vellicated and irritated, so that the Animal Spirits flow in greater plenty, and so encrease the peristaltick Motion, and cause a Convulsion. And they think, the cause of this separation and precipitation to be the Effervescence of the Blood, augmented by the sharp, bilious Particles, that were preexistent in the Blood and Serum, and irritate the Fibres by their sharpness. But in a *Celiaca* and a *Lienteria* they blame a bad Ferment of the Stomach; because the Meat is not sufficiently dissolved by it.

§. 10.

AS to our own Opinion. It is well known to every one, That the Stomach and Guts are strangely griped in these Loosenesses. In a Diarrhæa the enemy goes armed with various Darts, and when they touch the Fibres, they must of necessity be contracted, according

ing to the nature a motive Fibre; whereupon also the Emunctories of a glandulous Texture, that open upon the Guts, are strained and compressed, by which constriction the Liquors are squeezed, as out of a Sponge, and so are voided by Stool. But in this business of coarctation the Fibres of the intestinal Glands, and of other ways and Passages, are only as instruments, the Animal Spirits acting violently, and performing that office, as the principal Agent; whereupon, when violence is offered to these Places and Emunctories, then such a coarctation and straitning follows: wherefore this Disease may well be called a convulsive Disease of the Guts. And this private enemy is any bad, sharp, acid Humor, gathered in the first Region of the Body, poured either out of the Arteries or lymphatick Vessels, either critically, or for the most part symptomatically, so affecting the Fibres of the Guts by its Acrimony, that by the constriction of the nervous Fibres, through the help of the Animal Spirits, the Humors are forced to pass downwards.

A Looseness therefore may arise either from too great serosity or lixivial Acrimony of the Blood; wherefore scorbutick People are often subject to it; or from the stoppage of the transcolation of the Chyle through the spongy and glandulous Crust into the lacteal Veins, as in the Cœliack Passion, when something of Chyle is voided together with the Excrements, or a serous Matter is thrown off the serous pancreatic Juice, which ought to be ascribed to the serous Recrements of the Blood. For it often happens, That the *Serum* in

the Mass of Blood, which should be dissipated in form of a Vapor, when the Pores and Passages of the Skin are closed, does reflagrate, whereby the *Serum* encreases, and often causes a Looseness. Wherefore in my Practice I commend Sweating for a Looseness. It often happens also, That Bile pricks the Fibres of the Guts, and the corrosive *Alkali* of the Gall is so fretting, That it corrodes the very Guts, and causes a Gangrene, and then it spoils the Animal Spirits residing in the Fibres of the Guts, and then death follows. So the Guts are solicited by a vitious and corrosive Acid, whereby divers Fluxes of the Ecly are caused, in which case the Excrements appear black; and this Acid by corrugating the sensible Fibres often causes horrible Gripes. These Loosenesses vary according to the various nature of the Acid. Nor do we deny, but in a Lientery and Cœliack Passion the Ferment of the Stomach may be vitiated, and rendered unable to dissolve the Food; wherefore of necessity it must be voided crude; and this Disease may easily arise from a weak or abolished influx of Animal Spirits.

§. II. *Prognostick.*

THe divine Hippocrates in the *proæmium* of his Prognosticks inculcates, That the Prognostick is of necessity to be known by a Physician: wherefore we will see what we may rely on in these Diseases before us. They are troubled with long Loosenesses, according to *Hippocrates, aph. 30. sect. 2.* who have just passed the Years of their Youth, and they that are near old Age,

A *diarrhœa* is the easiest sort of Looseness to cure; but it is apt to turn to the other. *Helmont* says, a *diarrhœa* is mortal, which comes through the fault of the natural œconomy, that is, from the activity of the Ferments being abolished; wherefore it is ever fatal to hœtick People. But that which comes from the poysonous *Blas*, may be cured by the help, of a Purge. A symptomatical Looseness is worse than a critical. That is good which comes to a Woman with Child towards the latter end of her time, and facilitates her Child-bearing. Also that which follows the stoppage of the *lochia* and breeding of Teeth; that which comes in the Spring-time and in serous Bodies. But that is bad, which follows a Pleurisy. In malignant Fevers a Looseness accompanied with other bad Signs is often Mortal, as among others I observed in the Illustrious Count *Joazel*, the Emperor's Commissary General, who lay sick at *Limburgh* eight days of a malignant Fever, and a bilious *diarrhœa* coming, the third day after he died, in whose Body, when I opened him to embalm him, I could find nothing to lay his death to, unless it were, that his Gall-bladder had not so much as one drop of Bile found in it. A *diarrhœa* of it self menaces no danger. For, according to *Celsus*, l. 4. c. 19. It is wholesome to be loose one day, if there be a Fever, and if it go off in seven days. Therefore it should not frighten a Physician, if such things be evacuated as should, and the Patient bear it well: when the Humors come by little and little, and without disturbance. A looseness also is good, when it follows an In-

flammation of the Eyes, according to *Hippocrates*, l. 6. aph. 17. or a Palpitation of the Heart, Stoppage of the *Lochia*, Dropsy or Deafness, 4. aph. 28. Excrements that are very white, frothy, stinking, fretting, crude, large in quantity, viscous, watry, purulent, like Meal or Chaff, eruginous, especially black, are bad; but they are good in splenetick People, and after taking of steel Medicines. If a Woman with Child have a Looseness, she is in danger of miscarriage, as *Hippocrates* says, 5. aph. 34. But this must be understood with other bad Signs, and especially the *Misses*. For I know a case, where the Physicians gave a fair Maid, who kept her being with Child from them, strong Purgatives, yet she found no harm by it, but was brought to bed of a lusty Girl, which she strangled, and was beheaded for the Fact. If a Looseness come from over-eating ones self, there is small danger, but it is dangerous, if it be caused by bad and poysonous Meats. Dropsical Persons, when they are taken with a violent Looseness, though sometimes they escape, yet they often dy. People recover of a *diarrhœa*, when their Excrements grow better, that is, when they thicken and grow nearer their natural State. But when the alteration is for the worse, and the Excrements turn green, ash-coloured, black, fat and stinking, with hiccoughing and other bad Signs, this is a bad change, and usually ends in death.

§. 12. *Dietetick Cure.*

THe Air must be temperate: for a moist and cold Air promotes a Looseness. If one sit on a cold Stone, or walk bare-foot on a cold and moist Floor, he is apt to fall into a Looseness. In Autumn and Winter Loosenesses are frequent, because transpiration by the Pores and Passages of the Skin is hindered. For in Summer-time these Passages are open, and the Body is continually in a Sweat with a perpetual transcolation of the Serum, and upon the Passage of this serous Vehicle by the Skin, little Urine is made, and the Belly is bound; but when all things are frozen with Winter's cold, and these Passages are stop'd, Urine is more plentiful, and the Belly is looser, which the famous Practitioner *Gabelchoferus* cent. 3. cur. 73. confirms, where he says, *They that are of a thick texture, and have a thick Skin and narrow Pores, go softer to Stool, than they that have open Pores, by which Vapors and Moisture may be spent, the Excrements are dried, and the Body is constive.* Hence it may easily be gathered why Fluxes are often raging in the latter end of Summer and beginning of Autumn. Hence also Sudorifics are commended in Loosenesses, to make a diversion.

The Meat must be of a laudable Juice, and taken in a small quantity; not fluid; roast-meat, and boiled with Spices excel. All beastly chopping up of any Meat without chewing it, or mixing it with Spittle, is bad. All crude, acid Meats, and horary Fruits are in the same predicament, especially *salt Cabbage*. Therefore they take

but a bad course for their healths who take this Cabbage for a purging Medicine, when it rather does it because of its ill Digestion. In this case divers Mushromes are bad; which have sharp Particles in them; and *Seneca* does rightly call them a *pleasant Poyson*. Melons and Cucumbers are of the same rank, especially eaten raw, seasoned with Pepper, Salt, Oyl and Vinegar, and eaten with other Meats, upon eating of which I have observed abundance of *diarrhæas*, Lienteries, Bloody-fluxes and enormous Vomiting. So that a French Physician might well write on the front of a stately House which he had built, this French Distich in Letters of gold.

*Les concombres & les melons
M'ont fait baster cette maison.*

And here all Pulse, which contains in it an occult Acid, is condemned; and also all Meat that is salted and smoak-dried, Swines flesh, all fat and sweet things, which have a corrosive Acid in them, by which the Fibres of the Guts may easily be irritated, and so spasmodically affected. All Purgatives that are either poysonous, or given in too large a Dose are as bad, which often produce an over-purging and an incurable Looseness. For there are some, That have most tender Fibres in the Mouth of the Stomach, and (pardon the Expression) a paper Stomach, which, if it also abound with sharp Humors, is easily put into a Looseness. So I gave a Girl only two Ounces of Manna with half an Ounce of Cream of Tartar, and one would wonder what disturbance it gave her, and how it over-purged her. I also

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knew one, extremely hypochondriack, who took only as many *Frankford Pills* as he expected Stools: for he had a moist *Serum* without any driness, sharpened with a saline *stimulus*. On the contrary, they that have dry Guts without *Serum*, and have strong and hard Fibres, are not easily moved, especially where the Acid is strong, by which the strength of the Purge is weakned. For the virtue of Purgatives depends upon a greater or less quantity of *Serum* in the Body, that is more or less acid, besides the disposition of the Stomach: Therefore a lax and moist Stomach and Guts are difficultly irritated: but they that are full of excrementitious, serous, sharp, saline Humors are easily wrought upon. Be wary therefore, and have a care of Poysons, which by their arsenical sharp Particles, mixt with a sweet viscosity, are not only able to disturb the Mass of Blood, but spasmodically to irritate the nervous Fibres of the Stomach and Guts, so that often, yea of necessity, a violent flux of the Belly must follow.

Let *Drink* in Loosenesses be moderate. Wine of Pomegranates or Quinces, or Malmsey, or Juniper mixt with other things is said to do good specifically. Large drinking does hurt. Poor People may drink Beer well boyled and wrought, in which a piece of Steel or Gold has been quenched. But a Decoction would do more good made of Harts-horn, *scorzonera* Root, Tormentil, dried Quinces, Hips and other moderate Astringents. On the contrary one must have a care of hot Wine and new, of which *Schola Salernitana* says well,

Impedit urinam mustum, solvit cito ventrem, &c.

Motion and Rest must be moderate; unseasonable exercise, such as Dancing, Riding, Running, too much playing at Ball, are able to cause this Tragedy. So likewise a Looseness must of necessity follow a life too sedentary, while it hinders transpiration, and fills the Body with many serous Humors that remain behind.

Sleep and Watching must not exceed mediocrity. But sleep must be procured, as much as may be, for it checks all Evacuations but Sweat.

The *excreta and retenta* must be correspondent to Nature. For the usual Evacuations, such as Urine, Sweat, (which uses to evacuate the *Serum* either sensibly or insensibly by the Pores of the Skin) Snout, Spit, the flux of the Hemorrhoids or *menfes*, suppressed or running too violently, may do great mischief.

The *Passions of the Mind* must be moderate. So in anger, by a violent commotion of Bile (for these dregs, that taint the Blood, are usually thrown off the Blood, into the *ductus felleus* and *pancreaticus*) I have often observed bilious diarrhœas. So *Platerus* observed a Looseness upon Grief (inasmuch as the Humors are turned sowre in the Body.) *Waleus* has observed Loosenesses follow frights and fear. Our Lives therefore must be regulated by the golden Mean.

§. 13. Pharmaceutick Cure.

NOW we will subjoyn the Pharmaceutick cure according to the Minds of the Ancient Galenists. They first of all corrected the Humors with Preparers, Syrup of Mint, Water of the same, Plantain, Zedoary, &c. Then they evacuate the corrected Humors. In a hot or bilious Constitution they give Goat's Milk, Rhubarb, Tamarinds, Syrup of Cichory with Rhubarb, &c. In a cold or melancholick Constitution they give gentle Melanagogues, in a phlegmatick Constitution Phlegmagogues. Then they fly to corroborants, as to their last refuge. To this Class they refer all Astringents, such as Tormential, Bistort, Plantain, Purslain, Seeds of Dock, Myrtle, Quinces, Pomegranates, Medlars, Currans, Services, sowre Plums, Coral, Bole Armenick, *terra sigillata*, Dragon's blood, precious Stones, burnt Ivory, Marmelade of Quinces. In a phlegmatick Looseness they commend Aromatics, which inclde and strengthen, such as Mint, *cardus benedictus*, Peels of Orange, Citron, Zedoary, Cinnamon, Nutmeg, Lignaloës, Amber, Mastich, Hare's-runnet. Of these they make a thousand Reciepts and Compounds. At last, when necessity forces them to it, they fly to Anodynes; among which they commend *Vinice Treacle*, *Philonium Romanum*, *requies Nicolai*, *diascordium*, &c. Among chirurgicall means they forbear Blood-letting; they allow of Cupping and Scarifying the Shoulders and Back, because thereby they evacuate, derive and make revulsion. *Avicenna*

says, *l. 3. sen. 16. tr. 1. cap. 1.* that a large Cupping-glass applied to the Belly does very much good in this case. So they do not condemn Vescicatories, Frictions and Ligatures. Of which see *Sennertus*, who may serve for all.

§. 14.

THE Chymists, for correcting these dissolved Salts, do commend several fixt Precipitants, and Infringents with astringtion, such as *crocus Martis astringens*, Vitriol of Mars, Tincture of Mars, Coral, Sulphur, Vitriol, styptick Liquor, *saccharum Saturni*, several Martial, and aluminous Medicines, and a thousand other things.

§. 15.

Helmont in a *diarrhea* that proceeded from the fury of the *Pylorus*, gave two hard Yolks of Eggs mixt with Vinegar of Roses. According to him Horses hools fried in Butter mitigate this disposition of the *Pylorus*. Also Iron-Waters are highly commended by him.

§. 16.

UU is among other things commends, universals promised, this following;

Take of Rhubarb powdered two Drachms, Salt of Tartar fix Grains, Cichory-water five Ounces; let them stand a Night in digestion in a warm place. Glve it.

Then he gives a Drachm of *Vinice Treacle*, drinking two Ounces of the following Iulep upon it;

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Take of Water of Mint, Cinnamon, Barly each three Ounces, Treacle half an Ounce, prepared Pearl half a Drachm, *saccharum crystallinum* half an Ounce. Mix them. Make a Julep.

At the same time the Author aforesaid toasts a slice of Bread, spreads it with Treacle, dips it in some generous red Wine heated, and applies it hot to the Stomach; and ever and anon he changes it. He does not neglect divers Styp-ticks, prescribed here and there, and, if the Pulse and Respiration be strong, he flies to Opiates; among which he indubitably believes that *laudanum liquidum cydoniatum*, about twenty drops of it given in a draught of the foresaid, or some other Julep.

§. 17.

Sylvius in a bilious *diarrhoea* commends all things that correct the saline Acrimony of the Bile; and this he does by diluting, and acid or gently astringent Medicines, such as Quinces, Barberries not ripe, Verjuice, Plantain, Purslain, fat Earths and *terra sigillata*. But if the Flux be serous, then he orders Hydragogues; for instance, Powder of Jalap; he gives Sudorificks and Diureticks, among which he magnifies a Decoction of Root of China, *sarsaparilla*, Butterbur, *lignum Guajacum*, Oak, Box, &c. And he commends roasted Rhubarb and Nutmeg in a *diarrhoea*, be the cause what it will. After he has corrected and evacuated the Bile, he goes to tempering things, for which end he prescribes *diascordium*, Treacle, *confectio hyacinthi*. He commends the following Receipt,

Take of *diascordium* one Drachm and an half, *confectio hyacinthi* one Drachm, Syrup of Myrtles one Ounce, Cinnamon-water half an Ounce, Plantain one Ounce and an half. Make a mixture to be given by Spoonfuls.

In a Coliack Flux, when Chyle is voided with Excrement by Stool (which it often is upon the obstruction and then breaking of the lacteal Vessels) he uses Consolidants, that are a little astringent. But if the lacteal Ducts be obstructed by viscid Phlegm, and the Chyle finds no passage, in that case deobstruent Medicines are good, to clear the carnos Crust from Viscidity.

In a *diarrhoea* attended with Gripes, if it have its rise from Wind (as sometimes, the foresaid Author writes, it has) it must be discussed by giving Carminatives; but if it come from Acrimony of Humors, it must be tempered and corrected by anodyne, narcotick, spirituous and oily Medicines, nor does he neglect divers external Topicks (of which I shall say more below, especially Clysters of sweet Milk, adding Whites of Eggs, Turpentine, &c.

§. 18.

According to the Cartesian hypothesis those pointed Particles, that are in the first ways, or are preexistent in the Mass of Blood, and cause a great disturbance, must be made dull, or as much as may be, must be carried off. Therefore the beginning of Loosenesses they commend Rhubarb, Jalap, Crab-eyes, mixt with other things. The vicious Acid must be corrected by Aro-

Aromaticks, and the spoiled Tone of the Stomach and Guts must be restored by moderate Astringents. When these things will do no good, they fly to Anodynes, which assuage the Acrimony of all the Humors, that vellicate the nervous Fibres, and which remove spasmodick corrugations, yea, which a little fix the Animal Spirits flowing in impetuously, and so may do good.

In a Lientery and Coeliack Passion they prescribe all Balsamicks, called Stomachicks, used either externally or internally.

§. 19.

NOW we will go to our own cure. In every flux of the Belly therefore we use to give a convenient Purge at the beginning to such as are strong and grown, but to weakly Persons and Children we give a cleansing Clyster. If Bile abound, we advise a Drachm of Rhubarb with a Grain or two of *theriaca caelestis*, or *pilula stomachales cum gummi mastiche*. In a ferrous Looseness we commend gentle Hydragogues, which carry off the reliques of the *Serum* by Stool at a little and a little; for instance, Powder of Jalap mixt with Cinnamon and Nutmeg. Yet in so great variety of fluent Humors we advise the method of Cure to be varied according to circumstances. Therefore in a bilious nature we use to give the following Potion;

Take of the best Rhubarb, not toasted one Drachm and an half, red Sanders fifteen Grains, Shells of Myrobalans half a Drachm, Cinnamon one Scruple, Salt of Wormwood half a Scruple. In-

fuse them for a Night in Water of Arimart, or Mint, or Oak-leaves three Ounces in a warm place. In the Morning boyl it and strain it. Add of Syrup of Steel half an Ounce, burnt Harts-horn half a Drachm, red Coral prepared half a Scruple. Mix them. Make a Potion. Or,

Take of Root of Rhubarb two Drachms, Nutmeg half a Drachm, Salt of Tartar two Scruples. Infuse them for a Night in Water of Roses or Plantain what is sufficient. Add in the Morning of Syrup of Steel one Ounce. Mix them.

Or in form of a Powder.

Take of yellow Rhubarb one Drachm, Nutmeg one Scruple, burnt Harts-horn half a Drachm, prepared Pearl half a Scruple. Mix them.

Or if *Serum* abound.

Take of Conserve of red Roses one Drachm, Powder of Rhubarb, Jalap each half a Drachm, Salt of Wormwood half a Scruple, Oyl of Nutmeg two Drops, *consilia Alkermes* one Scruple. Mix them. Make a *Bolus*.

Or in form of a Powder.

Take of Powder of Jalap, Rhubarb each half a Drachm, *theriaca caelestis* three Grains, Nutmeg one Scruple. Mix them, make a Powder.

The Clysters following, or some such like may be given to weakly People;

C c 4

Take

Take of the Decoction of Barly one Pound, Honey of Roses two Ounces. Mix them for a Clyster. Or,

Take of our laxative Powder six Drachms.

Take of Mechoacan, *chebuli*, Myrobalans moderately tosted each half an Ounce, Nutmeg four Scruples. Mace two Scruples. Mix them. Make a subtil Powder. The Dose one Drachm.

These things premised, we make diversion with Sudorificks and Diureticks, such as Decoctions of the Wood of *Guajacum*, Oak, and several others.

But to remove the Pains and Convulsions of the Guts, and to assuage the malignant sharpness and acidity that offends the Nerves, we frequently use the following Powder;

Take of *terra sigillata*, prepared Emerald, diaphoretick Antimony, Cinnabar of Antimony, *terra chabubu* each one Scruple, *Laudanum opiatum* three Grains, Oyl of Cinnamon one Drop. Mix them for several Doses.

And if there be malignity, add to this Powder, some of the Backbone of a Snake, that so you may kill two Birds with one stone.

You may also give divers Carminatives and Medicines of Treacle, you may often repeat the Absorbents, adding some Bezoarticks, and things good for the Nerves;

Take of Essence of Treacle two Scruples, Balsam of Peru one

Scruple, anodyne Essence half a Scruple. Mix them.

The following Powder often does good;

Take of Bezoartick Powder one Drachm, prepared Cinnabar, Cinnabar of Antimony each one Scruple, Castor half a Scruple, *Laudanum opiatum* two Grains, Oyl of Cinnamon, Mint each one Drop. Mix them.

You may meet with such Receipts among the most celebrated Authors. But because most of them then knew not the convulsive Motion, they omitted Antispasmodicks generally in their Receipts: And this is the reason, why we are so prolix in writing Receipts, for the sake of young Beginners. We must therefore know, That the Stomach and Guts receive great relief by Opiates and balsamick Aromaticks. For they gently assuage the membranous and sensible fibrous Parts; so that after the taking of them all painful irritations generally cease. For this end I usually give the following balsamick, opiate mixture with great success;

Take of Conserve of Roses, Chocolate of *Sevil* each two Ounces, *crocus*, *Myrris*, prepared Amber each one Drachm, native Cinnabar two Scruples, Balsam of Peru one Drachm, *laudanum opiatum A. S.* six Grains, *diacinnamon rex.* six Drachms. Mix them. Or,

Take of Conserve of Roses two Ounces and an half, burnt Harts-horn

horn prepared two Drachms, *terra vitrioli dulcis* one Drachm, one anodyne Sulphur of Vitriol our Scruple, Mother of Pearl prepared half a Drachm. With Syrup of Coral, Quinces, Steel, &c. make an Electuary. The Dose one Drachm.

The anodyne Sulphur of Vitriol prepared my way is a great Secret with me, and I can safely say, it never failed me. And you may give this or the like liquid Electuary;

Take of Conserve of Comfrey, Mint each one Ounce, Extract of Tormentil, Salt of Coral, Tincture of Mars, Amber each one Scruple. Make them into a liquid Electuary with styptick Syrup.

In a Lientery and *Coeliaca* we depend most upon Balsamicks, and we give the following styptick stomachick Liquor;

Take of *terra chatechu*, Root of Aron, Tormentil, Peony each what you please. With the Essence of Balsam of Peru, volatil Spirit of Vitriol and Spirit of Mastich mixt, what is sufficient, adding of Oyl of Cinnamon, Mint, Nutmeg each a little, make an Extract, as above.

If you add to this Liquor the anodyne Tincture, you will do feats in the foresaid Diseases, especially if there be a Salt and biting Serum, which you may judge by the excoriation and inflammation. So you may add *laudanum cydoniatum* or *theriaca caelestis* to the precipitant Powder. And here you must take notice, That you should not pre-

sently desist from such Medicines, but repeat them every five or six hours, and continue them for a good while: and if there be much Serum, more solid than liquid things should be given.

We commend likewise our corroborating Liquor, especially in a *Coeliaca*, and a Lientery, to correct and encrease the Ferment of the Stomach, which has also a faculty of tempering and asswaging the sharpness of the bilious Humor. Or,

Take of Spirit of Wine rectified, sweet Spirit of Salt each one Ounce. Mix them, and rectify them. Then you will have of these Spirits one Ounce and an half. Then,

Take of Spirit of Wine rectified half an Ounce, to which add of Oyl of Cinnamon twelve Drops, Cloves six Drops, Roses four Drops, Extract of Lignaloës two Scruples. After Solution mix them with the aforesaid Ounce and an half of Spirit. Digest them some days. The Dose 20 or 30 Drops.

For bridling the fury of a bilious Flux and tempering the sharp, salt *lixivium*, Universals premised, I highly value Whey, oily Emulsions of the four cold Seeds, Tincture of Roses, Testaceous Powders, Opiates, &c.

In a *diarrhœa* also, which comes from a vitriolick Acid, where the Excrements are black, we recommend the same Medicines, and all volatil oily Spirits.

If the Bile be infected with any poysonous sharpness, which may easily be observed by the Symptoms,

Ptoms, we must insist a while on Alexipharmacks and Bezoarticks; and they must never be neglected.

Among Externals divers Bezoarticks are good, and moderate Astringents, Nervines and Anodynes. Here follow some Receipts for young Physicians.

Take of our stomachick Balsam made with Chocolate two Ounces. Make a Cataplasim for the Stomach and Belly. Or,

Take of Oyl of Mastich, Mint each half an Ounce, Nutmeg, Quinces each one Drachm, Worm-wood ten Drops. Mix them. This strengthens the Stomach and binds.

Among these we may reckon di-

vers stomachick Plasters; for instance, *Wedelius's* Plaster of Treacle and carminative Oyls, one made of Chocolate and *diascordium* with Sack, also one of Tacamahaca. *Theriaca cœlestis* may be applied to the Navil, and divers Bags made of aromatick and emollient things may be applied to the whole Belly.

In a Lientery and a *Cœliaca* we must have more regard to balsamick and spirituous things. The whole Belly may be anointed twice a day with the following Oyls mixt together;

Take of Oyl of Mastich, Quinces, Roses each half an Ounce, Nutmeg half a Drachm. Mix them.

You may see the rest in the Disease we call *Cholera*: for I would not be nauseous in my repetitions.

CHAP.

C H A P. IV.

Of a Vomiting and Looseness.

§. I.

AMong very violent and acute Diseases of the Belly, which afflict Mankind, a Vomiting and Looseness is not the least. It is called *Cholera* from *Χολη* *cholē*, and *ῥέω*, to flow, wherefore *Aurelian* calls it *fellisua passio*, some call it *fbris cacatoria*, some *choleric passio*, others give it other names, and those that would know them, may consult Dictionaries: For we are more intent on things than words. We will proceed therefore to the definition. I think this may serve, *It is a depraved and convulsive Motion of the Stomach and Guts, yea, of the Mesentery, Pancreas, &c. arising from the spasmodick contraction of the Fibres of the Stomach and Guts and other Parts, by which perverse and contrary Motion corrupt Humors are violently voided upwards and downwards.* And Physicians make several sorts of this Disease; one sort is periodical; another continual; one malignant; another benign: But the most remarkable and received distinction is into a moist and dry *Cholera*. The latter is, when Wind is so pent

up in the Stomach and Guts, that it can no way get out. But because this belongs rather to a Tympany or Wind Colick, we will pass it by, and rather insist upon the explication of the nature of a *Cholera*, first of all considering the Part affected.

§. 2. *Part affected.*

NOW the Part affected according to *Galēn*, is both the Orifices of the Stomach, and most Physicians are of his Mind. *Celsus* thinks this Disease lies in the Stomach and Guts. *Hilment* accuses the *Pylorus* of the Stomach for the Part principally affected. We hold, That the Guts, Pancreas and Gall-bladder are as well Parts affected as the Stomach, because first, there are Signs of the Guts being affected, namely, rumbling in the Guts. And secondly, we have found the Guts gangrened in such as have died of it. But the Parts chiefly affected are the Fibres of these Parts, and the Glands of the Guts, in which the peristaltick Motion may as well be inverted, as it is certain, that there are nervous Fibres in the Guts, Pancreas, and Gall-

Gall-bladder, as well as in the Stomach: And likewise these two Champions, the Bile, and pancreatick Juice meeting in the *duodenum* may occasion this Disease. So that there is no reason, why we may not take the Guts, *Pancreas* and Gall-bladder for Parts affected, as well as the Stomach. This will be more apparent from the following Case.

A Case.

A Woman twenty Years old, of a choleric Constitution, accustoming her self to eat sweet and fat Meats, and raw Fruit, was in Summer-time taken with a violent Tooth-ach (for long ago *Galen de art. med. lib. 8.* knew that any Pain causes Defluxions) her Spirits being enraged by the pain, when she went to bed, she found a violent pain in her Head, with a great heat in her Body, nauseousness, thirst, wakefulness, Pain at her Heart and Stomach: A little afterwards she vomited and went to Stool frequently, so that she filled several Pots. Her Excrements were liquid, bilious and ash-coloured, and came away with much Wind, Gripping and Oppression of the Heart. She fainted, was in a cold Sweat, and grew very weak. These things are sufficient to show what it is, especially if the following Paragraph about the Diagnostick be perused.

Diagnostick.

And it is highly necessary, since according to *Trallianus* the Diagnostick is the foundation of a right Cure; for any one may easily judge how great the necessity and

utility of diagnostick Signs are; wherefore it will be worth our while to do our endeavour to describe them aright. The Disease is shown to be imminent by a violent pain in some Part, especially in the Loins, sowre and nidorous Belchings, Rumbling in the Guts, puffing up of the Belly, Anxiety of Heart, Head-ach, plentiful eating of corruptible Meats, Cucumbers, Melons, all horary Fruits, and in a word, all such as are commonly called cold ones. The following Signs denote it to be already present. Bilious, acid and nidorous Stuff is voided by Vomiting and frequent Stools for several hours, yea, and days, just as if the Patient had taken Poison; there are prickings in the Stomach and Belly; the Excrements are at first liquid, afterwards they are thicker and better coloured, sometimes they are tinged with a citrine, green, leek green, blew (such as I saw the same Summer wherein I wrote these things) black and bloody colour; and sometimes they are voided white, with Wind and the Gripes; yea, if there be malignity, they incline to an ash-colour, and keep that colour a long time. There is also a great thirst. Urine there is little or none, because all the Liquids are discharged out of the Body upwards and downwards by other ways. The Body all over in a cold Sweat, the Pulse is frequent and little, sometimes it ends in an intermittent one; then comes cold in the extreme Parts, Swooning, Hiccough and Convulsions; when the Disease encreases there is often a Convulsion and drawing of the Muscles, but especially of the Calves of the Legs, and now and then of the ~~arms~~ but that of the Calves of the

the Legs is a Symptom peculiar to this Disease.

§. 3. Cause.

These were the Signs, now we will search out the immediate cause of this Disease, in the order which we have hitherto observed. And first of all let us hear the Opinion of the *Ancients* concerning this Matter. They say, That Bile is the cause of this Disease, and thence they gave it its name. This Bile, they hold, is gathered all over Mens Bodies in great quantity, and is poured out of its Bladder into the Stomach and Guts. And they hold, That this hurts the Retentive Faculty, and they prove it by this, Because this Disease rises from bad, corrupt, sweet and bilious Food. Wherefore if the Bile make its attempt to escape by the Mouth of the Stomach, they say it is vomited. But if it be gathered in the Guts, they say it is voided by Stool. Wherefore they blame a hot intemperature of Stomach, arising, to wit, from Bile. Moreover they assert, That sometimes an ill Humor falls from the Head upon the Stomach, and so the expulsive Faculty is hurt.

§. 4.

Let us now proceed to *Paracelsus* his Opinion, who differs in Opinion, and holds, That the *cholera* as a sort of *morbus dissolutus*, and that an aluminous Salt is wanting in the Stomach; so that on the contrary the entalick Salt, which expels upwards and downwards, stimulates the expulsive Faculty, for according to him, where these Salts are not, there is neither Vomiting nor Looseness. So that it appears

from what has been said, That a *Cholera* and other fluxes of the Belly must be reckoned to come from the predominance of a saline Principle, and indeed of a dissolved Salt either separated or corrupted. For this Salt is sometimes purgative, helleborine, sometimes antimonial, sometimes scammoniatic, contained either in the Food that is taken, or in the internal Principles of the Body. Which Salts, if they be dissolved, do breed these Laxities and frequent Stools.

§. 5.

Helmont says, That the Blood in a *Cholera* turns into a pungent, corroding, watry Liquor, and not, as the Schools would have it, into a bitter Excrement. For when any thing putrefactible, or, as he speaks, cadaveratible is taken into the Stomach, wanting its digestive Ferment, then it putrefies and digests not. Whatever also a *Cholera* touches, it taints and turns it into Poison, whence the disturbance of the *Pylorus* and Guts flows, and all Liquids are voided upwards and downwards.

§. 6.

Willis thinks, That in a *Cholera*, the fleshy and moving Fibres of the Stomach and Guts are by remote causes put into solutive Contractions of the Belly. For the violent Passions of the Mind and Body often cause it, to wit, inasmuch as the Spirits in the Head or in some principal Parts of the nervous *Appendix*, being greatly disturbed, and presently by the Passages of the Nerves or nervous Branches communicating their disorder to the Spirits that reside in the

the Stomach and Guts, do put them in Convulsions. Wherefore he shows, That this Disease is a Spasm or Convulsive Motion of the Stomach and Guts, which is excited, when a vitious Chyle, made so by the Food, or the fermentative Juice of the Stomach degenerates into an Acid, austere or bitter, or otherwise troublesome Humor, and there irritates. Also an irritative Humor, according to him, is sometimes poured into the Stomach and Guts out of the Arteries; Bile likewise and the pancreatick Juice, sometimes severally, sometimes jointly, being exalted by a mutual effervescence in the Stomach, do put the Fibres into vomitive and laxative Spasms. And sometimes a turgescient Matter voids its Recrements, since it cannot expel them by transpiration, into the Cavity of the Stomach and Guts, by the Branches of the Coeliac Artery, so that their Coats being notoriously vellicated, do suffer horrible Vomitings and choleric Passions, by reason, that is, of the animal Spirits being some where disturbed and fired. And he holds, That other Spirits residing in the Stomach and Guts may also be affected either by continuity of Fibres or communication of Nerves, and may so be put into vomitive and purgative explosions.

§. 7.

Solbius blames an effervescence of Humors caused amiss in the small Gut, and sharp Bile, and then a violent Motion of disturbed Humors, caused by horary Fruits, that are wont to decay. For this Disease is apt to come from Humors preexistent in the Body,

or upon an external Error committed in Diet. And both sharp and bilious Humors are violently and abundantly voided both upwards and downwards, together with great Oppression at the Heart. Wherefore he reckons that this Disease proceeds from the peristaltick Motion of the Guts, inverted only in part.

§. 8.

The Cartesians say, That in this Disease the Fibres of the Stomach and the *intestinum duodenum* are contracted upwards, by the cutting, acute, pointed and otherwise unequal Particles; and of the other Parts both upwards and downwards, and so the corrupt Humors are voided. And they hold, That this vellication of the Fibres cannot last long without a great fury of the Animal Spirits, that are disturbed in their order and stations, and do strangely stir up this spasmodick Motion by their incongruous assaults; whence proceeds this disturbance of the whole Animal oeconomy, just as if the Patient had drank Poison.

§. 9.

WE will now enquire what forces appear in our Disease, that is, in a Vomiting and Looseness. I make no question but the principal is an Acid, which yet varies very much, as it is mixt with Bile, or other alkaline, earthy Particles, implicated with divers Meats, which according to their divers mixture and texture make the Disease either malignant or benign, especially if they meet with a separate Acid. Now a great

Mass of malignant contrary Humors are gradually gathered in the first Region of the Body, or it flows thither, either critically or symptomatically, and stimulates the Guts to a perpetual ejection. Sometimes also an additional corrosive of the Alkali of the Gall, so corrodes the Guts and their Fibres, that it causes a Gangrene, which we, as was above said, not long since found in one that was opened, who died of this Disease. This *Alkali*, when it infects the Blood and raises a Fever, often hastens death. For the Bile, being made too sharp, does by its saline Prickles prick and vellicate its own *capsula*, and the nervous Fibres of the Stomach, Guts and *Pancreas*; by which vellication the Animal Spirits are disturbed, wherefore they flow in more impetuously, and so cause a spasmodick Motion, which must needs be attended by frequent and violent Vomiting and Purging. By this contraction all the contained Liquors must of necessity be cast out of their Vessels, and at last quite out of the Body. For all the urgent Symptoms in this Disease may easily be derived from the Salt of the Bile being made too volatile and sharp. And if the Bile be imbued with a singular poysonous sharpness, then the Disease is called malignant; for whence should this violent evacuation upwards and downwards proceed but from these saline Prickles, which stimulate and corrugate the orbicular Fibres of the Stomach and Guts, and the intestinal Glands? Whence, I pray, this pricking Pain, nauseaousness and anxiety: Come they not from these Prickles? And if some viscid Matter concur, that, when it is exalted into Vapors by

Fermentation, causes roaring and rumbling in the Guts, familiar to choleric People. According to the diversity of the procatactick cause, the Excrements are voided different in consistence, colour, smell, &c. If the Patients also have drunk much Liquids, then they are to be infected with the exalted Bile, both as to taste and colour. This Medley being got into the Stomach doth further corrupt the Ferment of the Stomach, which is already corrupt, whence comes want of Appetite. The Hicough is also raised by these saline Prickles, while they vellicate the Stomach, and by consequence put the Diaphragm into a Convulsion. This bilious rage of the Stomach and Belly (if you mean the procatactick cause) is easily produced by excessive eating of horary Fruits and other meats, that are apt to corrupt, such as are sharp and crude, sweet and too far, Sawces and Spices. Among horary Fruits these are apt to cause this Disease, Plums, Cherries, Grapes (especially before they are ripe) also Cucumbers, Melons, Pumpions, Leeks, Onyons, Cabbage, especially pickled after the German way, the Row of a Barbel, as *Guldenkleet* testifies. Among aromattick things these are bad, Pepper, Horse-radish, also all purging Medicines, Poysons, cold Water, new Wine, Spaw-Waters drunk unseasonably, and other things which may contribute their Parts, of which we shall speak more largely, when we treat of Diet. But let us go to the

§. 10. *Prognostick.*

Prognostick, that Delphick Oracle of Physicians. A Vomiting and Looseness therefore is a very acute Disease, which kills a Man not only in a very few Days but Hours. And if no evident cause have preceded, then it is more acute and malignant, than that which proceeds from corrupt Meat, or from drinking of Poyson. Moreover also this Disease threatens death, if there be a weak Pulse, Palpitation of the Heart, Swooning, Hiccough and Convulsions. Also death is at hand, if the Pulse intermit, if the Urine be livid or black, and if the extreme Parts be cold. Yet we must here take special notice that of this as of other acute Diseases Predictions are not always safe, as *Hippocrates* says. I can attest this upon my own experience in my dearest Wife: for in this Disease there concurred, great weakness, cold Sweats, Palpitation of the Heart, Swooning, loss of Speech; and yet by the use of proper Medicines she escaped the Jaws of death. This also is a formidable Disease in old Men; but they are seldom taken with it. It uses to turn to heat of Urine or the Strangury: and I have known the event of this prove well.

§. 11. *Dietetick Cure.*

The Cure follows the Prognostick, and 1. the Dieterick. The Air must be temperate and enclining to cold; on the contrary an over hot one must be avoided; for it encreases Bile, and makes it more sharp and volatill; it destroys the Acid, which is its ally, and it

dissolves and dejects the Stomach and its Ferment. Wherefore *Hippocrates* was not mistaken aph. 15. 1. when he says, *That Mens Bellies are hottest in Winter and Spring, and therefore they have more need of plentiful Food, because then an Acid is most in its vigor.* He says, *Epid. 6. l. 10. a Cholera comes most in Summer, less in Spring and Autumn, and least of all in Winter.* For Summer makes all the Humors sharper; and hence things that are taken, do the easiliest corrupt in Summer time, and degenerate into bad Juices; and this is the reason also, that Fluxes of the Belly are more frequent in Summer than in Winter.

A little Meat must be given, and that easy of Digestion. Let the Broth be tempered with tart things. The Bread must be of Wheat, with the Juice of Pomegranate or some other Acid, which is a little astringent. But all fat, sweet and sharp things must be utterly avoided, as Oyl, Butter, Pepper, Ginger, Mustard, and all sharp distilled Oyls, all horary and oily Fruits, as we said before, to wit, Melons, Pumpions, Cucumbers, &c. as likewise all things that are apt to corrupt, among which are Swines flesh, all Milk-meats, Fishes, namely Eels, &c. And all violent Purgers must be forborn.

As for Drink, it must be either Wine of Quinces, or some other that is tart and subastringent, or a Julep made of Water of Meadow-sweet, Burdock, *Scordium* and Spirit of *terra sigillata*, or Almond-Milk or Chalybeate Drink. But let the Patient wash his Mouth oftner with tart things, than drink much. On the contrary all generous Wines, new Wine, new Beer,

Mede

Mede and several other crude drinks are hurtful. Nor must the Stomach be loaded with an excessive quantity of potulent Matter; for thereby the Ferment of the Stomach is drowned, and rendred quite useless. *Rest* must be advised. *Sleep* also is very good. On the contrary, long *watchings* sharpen and inflame the Bile.

Let the *Passions of the Mind* be restrained, especially anger, sadness and frightfulness; for they greatly encrease Bile. They quicken the Spirits and Motion of the Blood, and so breed more Bile. And this is all we have to say of the Diarrhetic Cure.

§. 12. Pharmaceutick Cure.

NOW the Pharmaceutick Cure follows; and first of all according to the *Ancients*, who in the beginning of this Disease, while the peccant Matter may be any way thrust down to the lower Parts, and the strength is not too much spent, do give some proper purging Medicine; adding things to correct the Acrimony of the Humors. Their purging Medicines are these following, *cassia fistula*, Manna, Rhubarb, and they would have this particularly observed, That a Vomit must not be immediately stop't at the beginning, but rather promoted by drinking some Broth of Flesh or Chicken. But if the Vomiting be very violent, they endeavour to avert the tendency of the Matter upwards by the following or some such other Clyster;

Take of Barly half a handful, Flowers of Violets, Leaves of the les-

ser Centaury, Wormwood, Mint, Flowers of Chamomil, Melilot each one handful, choice Rhubarb two Drachms and an half, Polypody three Drachms. Boyl them in a sufficient quantity of Water. Add to the Colature of Oyl of Mint, Chamomil each one Ounce and an half, generous Wine two Ounces, *diacatholicon* three Drachms. Mix them. Make a Clyster.

For if the morbidick Matter be in a great measure already evacuated, as it is usually in four and twenty hours, then they use such Medicines as may avert the Motion of the Humors from the Stomach; and they draw the Matter to the lower Parts by the abovesaid Clyster, or by Ligatures and Frictions, and things that shall be hereafter mentioned. Moreover they try to stop the impetuous flux of Humors, and to strengthen the Stomach and Guts by strengthening Medicines, such as Syrup of dried Roses, of Juice of Pomgranates; Quinces, Limons, *diacodium*, candied Citron Peel, Conserve of Roses, a Cup of Cold-Water, which yet the Patient must drink moderately and at times, Treacle, Mithridate, white Poppy, red astringent Wine mixt with Chalybeate Water. A Clyster especially of the heads of white and red Poppy stops the Motion of the Humors and causes pleasant Sleep. The *Ancients* have found by experience, that throwing cold Water suddenly in ones face, has sometimes stop't a Vomit.

Among Externals they place various Unguents, Cataplasms, Plasters, &c. whereof there is an infinite number, a *dropax* especially

D d ly

ly of Pitch, and Oyl of Quince applied outwardly, they say, stops a Vomit excellently. So *Archigenes*, a very ancient Physician, durst in the greatest heat apply cold Water, yea cooled in Snow, to the Stomach, either in a Cloth or a Bladder; but try it, who dare. Certainly there is great danger of expelling all the innate Spirits. They advise the application of a Cupping-glass between the Stomach and Navil; they also prefer *cera- rum stomachicum Galeni*, *emplastrum pro stomacho Mesues*, *massichinum*, and *de crusta panis*. Lastly, they hold, that care must be taken of the Symptoms which occur in this Disease, namely Swooning and Convulsions, whose Cure may be gathered from what has preceded.

§. 13.

THE Paracelsian Chymists hold, That every lax Disease is from Salt, and they say, there can be no going to Stool without Salt; yea, their Master *Paracelsus* contends, That the expulsive virtue is in the very Dung or Salt of a thing, and that every Flux arises from the Stomach, that is, because the Stomach separates not aright, and therefore they will have the Cure directed only to the Stomach, contending, that the Cure is performed by Salts, and that the Salt must be rectified again, and the dissolved must be separated from the entire: Afterwards a sulphureous Cure ought to follow, as a confirmation of the Operations in the Salt. And yet in his second tract *de vita* he says, we must first purge with proper Medicines, and he writes, that binders unseasonably used in all excessive Fluxes of

the Belly do more hurt than good. Their famous things to stop the Flux and strengthen the Stomach and Guts, are Martial Medicines, such as *crocus Martis*, *tinctura Martis*, *terra sigillata* also and *vitriolata*, Magistery of Coral, among these may be reckoned Unicorn, *Cadmia*, Loadstone, Nitre, Alum, Talc, Bones of the Microcosm, rectified *Opium*, true *laudanum*, five precious Stones, prepared Gold, &c. which are generally in this case commended by *Paracelsus*.

§. 14.

ALLIS, besides divers laxatives given in the beginning, Clysters and styptick corroboraters, especially to quiet the rage of the Spirits, which is here very urgent, does commend *laudanum opiatum*, *cydoniatum* and *taratarisatum*, that stout conqueror of the Animal Spirits, and then he adds divers Antispasmodicks, which one may easily gather from what shall be hereafter mentioned.

§. 15.

SPIRITUS uses the following method of Cure. Whenever the Irritation of the Guts to an inversion of their peristaltick Motion depends upon a vitious effervescence of sharp Humors meeting together, then these sharp Humors together with their violent Effervescence must be tempered and quieted. In a peccant Acrimony therefore either of saline or acid Humors, he commends the following mixture to be taken by Spoonfuls at short intervals;

Take

Take of *Diaſcordium* two Drachms, *confectio de hyacintho* one Drachm, Syrup of white Poppy one Ounce, Plantain-Water two Ounces, Fenil-Water one Ounce. Mix them.

Then the Humors ſo corrected may be evacuated by Cholagogues. If the peccant Matter tend upwards, he makes no Scruple of giving a gentle Vomit, mixt with Opiates: for inſtance;

Take of *ſaccharum vomitivum* two Drachms, *laudanum opiatum* one Grain, Mint-Water what is ſufficient. Mix them.

But if the Acrimony of the Bile will not yet abate, it may be corrected with the followings, or ſome ſuch like mixture;

Take of Water of Plantain, Purſlain each one Ounce, ſweet Spirit of Salt half a Drachm, *diaſcordium* one Drachm and an half, Syrup of Purſlain one Ounce. Mix them.

Whenever a *Cholera* ariſes from horary Fruits, then the exceſſive Efferveſcence of the Humors is beſt checked by Opiates, among which *laudanum opiatum* is the laſt refuge. It is checked alſo by the ſame Opiates, whether it ariſe from the precedent cauſe, or from a too large Doſe of Vomiting Medicines, or from Poiſon: for which end our Author commends the ſoreſaid Mixtures, a Grain or two of *laudanum opiatum* being always added. For Opiates do as well temper all Acrimony, and quiet the conſequent Efferveſcence, as they lay aſleep the external Senſes. But if the Di-

ſeaſe proceed from Poiſon, that is from Orpiment, Mercury ſublimated, or Arſenick, then oily things, namely Broths, and milky things, eſpecially Buttermilk muſt be given, which muſt be continued as long as Pain, Nauſeouſneſs or Vomiting remain.

§. 16.

THe Carteaſians, to check the fury of the Animal Spirits, that are diſturbed, and invade the Stomach and Guts with incongruous Particles, and put them into a ſpaſmodick Motion, commend Bezoartick Opiates: for inſtance;

Take of *Diaſcordium* half an Ounce, Oriental Bezoar-ſtone half a Scruple, *theriaca ſœleſtis Hanovienſis* ſeven Grains. Mix them. Make an Opiate for twice taking.

In this caſe alſo they magnify all ponderous things, ſuch as Cryſtal, Bole-Armenick, Blood-ſtone, *terra ſigillata*, and a thouſand other things which may be found in the following Paragraph.

§. 17.

Now, leſt we ſhould fall raſhly on the Cure, will proceed in order: for this Diſeaſe varies according to the variety of Cauſes and Symptoms. If therefore a *Cholera* ariſe from corrupt Meat, which ſticks ſtill in the Stomach, and the Patient be prone to vomit, you may ſafely give *Sylvius* his Vomit, or this that follows, eſpecially if you have any ſuſpicion of Poiſon: for by benefit of this not only the peccant Matter that vitiates the nervous Fibres of the Stomach

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mach and Guts is cast out, but these Fibres are pacified, and so the Pain ceases. But you must take great care, that you make not the Animal Spirits more unquiet, and so encrease the Disease;

Take of the emerick Syrup three Drachms, *laudanum opiatum* one Grain, Salt of Wormwood three Grains. Mix them. Or,

Take of emetick Tartar one Grain, Salt of Wormwood two Grains. Give it in Mint-Water or Barley-Cream.

And we may give a Vomit of Oyl Olive or of Sweet Almonds.

But if nature evacuate sparingly downwards, and with great perturbation upwards, then, besides loosening Clysters, of Whey, sweet Milk, Mutton-broth or the emollient Decoction seven Ounces, Oyl of Violets, brown Sugar, each one Drachm, the Yolk of an Egg, or of Whey and Syrup of Roses solutive, Ligatures and Frictions will be proper. When the Vomiting is greater and the Stools less, divers Laxatives are proper, among which we highly value Whey of Sheeps Milk, with a little Pulp of Cassia, which both takes away the Heat and Pain, and gently loosens the Belly. Yet in this case Alexipharmacks must always be added. If the Bile be thick, Honey of Roses or Solutive will be proper with Whey, or choice Rhubarb one Drachm, Cinnamon one Scruple. Mix them. You must never give Repellents and Strengtheners at the very first, but if the strength will bear it, you must wait a few hours, till most of the Matter is carried off. For you must take dili-

gent heed, that you keep not the Bile in. We suspect Manna and Sugar, because they dissolve the Tone of the Stomach, and viriously ferment with the Bile. But when the Matter is evacuated, then by degrees you may proceed to Corroboraters, and things to stop Vomiting; and then all the Physician has to do, will be to temper the sharp Matter, which you may do by giving a Decoction of Barley and Syrup of Pomegranates frequently. This following may be given conveniently to stop the Vomiting;

Take of Oyl of Nutmeg by expression fifteen Drops, *laudanum opiatum* a Grain or two. It may be often repeated.

The Ancients commend a Decoction of Mint with Juice of Pomegranates, which is also astringent. They likewise commend the following Electuary; whereby I can say I have cured several;

Take of old Conserve of Roses one Ounce and an half, *diascordium* half an Ounce, red Coral, *crocus Martis* each one Drachm, prepared Pearl half a Drachm, rock Crystal one Drachm, Syrup of Pomegranates and Mint what is sufficient. Mix them. Of this Electuary take the quantity of a Chestnut.

The use of rock Crystal is also excellent either a Drachm of it alone or with Powder of Sanders, several times repeated. The following Emulsion is good.

Take

Take of Sweet Almonds one Ounce, white Poppy Seeds half an Ounce. Mix them. Make an Emulsion.

If Bile be too fierce, and Vomiting be the more violent, you may order the following Clyster;

Take of Root of Cinque-foyl; Butter-bur, *Scorzonera* each two Drachms, Leaves of Orpine, Calamint, Ground-Ivy, Plantain each one handful, Cordial Flowers, Marigolds each one Pugil, Pomegranate Flowers two Pugils, Citrine Myrobalans one Drachm and an half, Fenil Seed half a Drachm. Boyl them in Mutton-broth. Add to half a Pound three Ounces of the Colature of *mel rosatum laxativum* half an Ounce; *mictra Nicolai* half an Ounce, Oyl of Sweet Almonds one Ounce, Turpentine dissolved in the Yolk of an Egg two Drachms. Mix them.

Or one more abstergent;

Take of Root of Marsh mallow, Bugloss each half an Ounce, Leaves of Pellitory of the Wall, Mallow each half an handful, Flowers of Chamomil, Colts-foot each one Pugil. Boyl them in a sufficient quantity of Barly-Water. In ten Ounces of the Colature dissolve of brown Sugar one Ounce, Turpentine dissolved in the Yolk of an Egg half an Ounce. Mix them. Make a Clyster.

These Clysters premised, we may betake our selves, whatever some Physicians say to the contrary, to Clysters, that are more astringent

and edulcorating. Here is a Receipt or two for young Physicians.

Take of Root of Tormentil, Bistort each half an Ounce, Leaves of long Birthwort, Silver-weed, Sannicle each half an handful, Flowers of red Roses, Pomegranate each one Pugil, Berries of Sumach two Drachms. Boyl them in sweet Milk Chalybeate. In nine Ounces of the Colature dissolve of Deers Suet one Ounce, Juice of narrow Plantain new drawn one Ounce and an half, the Yolk of an Egg, *laudanum opiatum* one Grain and an half. Mix them. Make a Clyster. Or,

Take of a Decodion of Barly, &c. new Treacle three Drachms. Mix them. Make a Clyster.

The more celebrated internal Astringents, are, Juice of Mint, Spirit of Mastich, Juice of Roses, prepared Pearl, red Coral, its two-fold Tincture, *crocus Martis*, *terra sigillata* and its Spirit, Powder of Liquorice, with Cinnamon and Saavings of Ivory, all acid Juices with astringent Powders, and odoriferous things, and a thousand others. But Opiates excel them all, especially the *laudanum opiatum cydonistum Hoffmanni* and *theriaca celestis Hanoviensis*; which yet in the progress of the Disease must be given with caution, and they must be often repeated. *Pilule discordii Sylvii* are of approved use, and so is *theriaca sinaragelina D. Petri à Castro*, especially if there be Convulsions.

Oftentimes, I may say always in a manner, malignity accompanies a Cholera, depending upon a too

Volatil Acrimony, which must be driven out by Sweat; to which end the following or some such like mixture will be proper;

Take of Water of the Velvet of Harts-horn one Ounce and an half, Bur-dock compound one Ounce, Mastich six Drachms, volatil Salt of Harts-horn six Grains, *sordium* half a Scruple, prepared Crystal half a Drachm, best Lignalsces one Scruple, *tinctura bezoartica Michaelis* six drops, *syrupus totius citri* one Ounce. Make a mixture for six and thirty times.

Sweats of Treacle after the tempering of the Humors are good.

For the ordinary drink in this case a Decoction of *Scorzonera*, Harts-horn, Berberries and Myrtles with the addition of Spirit of *terra sigillata* is good, also a Decoction of Clove-gilli-flowers is good. Or,

Take of Mastich two Drachms, styptick Liquor one Drachm. Mix them. The Dose is from twenty to thirty Drops in Broth or some other Vehicle. Or,

Take of Spirit of Mastich half a Drachm, Vitriol of *Mars* two Scruples. Mix them. Or,

Take of Essence of Mint half a Drachm, Spirit of Mastich one Drachm, Vitriol of *Mars* one Scruple. Mix them. Or,

Take of rock Crystal one Scruple, Oriental Bezoar and Occidental each two Grains, Harts-horn philosophically prepared sixteen

Grains, Crabs-eyes one Scruple, *laudanum opiatum* two Grains. Mix them. Make a Powder, and divide it into two equal Parts. Or,

Take of Water of Mint, *cinnamomi cydoniati* each half an Ounce, Ivory prepared without fire, Magistery of Coral with Juice of Citron two Scruples, prepared Emerald one Scruple, Syrup of Coral one Ounce. Mix them. Or,

Take of Mother of Pearl, red Coral, Pearl, *terra sigillata* each one Scruple, *theriaca celestis* four Grains. Mix them. Make a Powder. Or,

Take of Crystal of *Mars* twelve Grains, *laudanum opiatum* two Grains. Mix them. Or,

Take of Tincture of *Opium* half a Spoonful, Camphore six Grains, Oyl of Nutmeg seven Grains, Conserve of Roses what is sufficient. Mix them. Or,

Take of *pulvis antidyssentericus Augustanus* half a Drachm, red Coral, Crabs-eyes prepared, Pearl prepared each half a Scruple, *crocus Martis astringens* twelve Grains. Mix them. Make a Powder for six and thirty Doses.

To this end Vesicatories may be applied to the Wrists or Ankles, as there shall be occasion.

We obviate Oppression at the Heart and Swooning with Juleps or Emulsions made of sweet Almonds, with Barly and Cinnamon-Water, or other known Cordials before mentioned. For the poorer sort

a Decoction of Agrimony with Baum or Cinnamon-Water may be prescribed; and Syrup of Pomegranates is good. Among Externals these things strengthen the Stomach, Plaster of Gum *caranna*, *de crusta panis*, *tacamahaca*, *Balsam*^{us} and *Emplastrum stypticum dy-*ⁿ⁻
sichti. And a Cataplasin of the Crumb of Bread made with Aromaticks, applied all over the Belly, will do good.

D d 4

CHAP.

CHAP. V.

Of a Dysentery, or the Bloody-Flux.

§. 1.

A Dysentery derived, of *Δις*, and *ἴσσις*, by *Cornelius Celsus* is defined to be, *Gripes*, whereby the *Fibris* of the *Guts* are corrugated, twisted, and vellicated, or an exulceration of the *Guts*, with a frequent voiding of Blood or purulent matter by Stool, pain and violent gripes, depending on abundance of sharp, corroding particles, that fret the *Fibris* of the *Guts*. It is a stinking nasty Disease, and very loathsome to nice people; besides, it highly endangers the Patients life, and not only infects all near it, but spreads its contagion over whole Provinces and Countries. Authors make several degrees of it. First, when slime with a little Blood and Pus come together. Secondly, when the inside of the *Guts* comes away, which we call the shavings of the *Guts*. Lastly, when the very substance of the *Guts* comes away. For sometimes *fanes* comes away without pain, which denotes a foul Ulcer. It so happens indeed in the Flux, which we call Hepatick, that Blood comes away without *fanes*, and without much gripes; but then the excrements are moist, like water wherein flesh has

been washed, and a man goes not so often to stool. So also Blood often proceeds from the Hemorrhoids: all which things a prudent and experienced Physician can easily distinguish.

A Dysentery is either benign, or malignant, or epidemical. See *Wilis* of the Bloody Flux at London.

§. 2.

THe part which nourishes this snake in its bosom is, by the consent of all Authors, the *Guts*, both the small and the great. One may easily gather, that the *Guts* of both sorts are affected, from the running up and down of the sharp matter in their windings and turnings, which causes those sharp gripes. For successively the exterior coat is eroded, then the Acrimony proceeding further eats the fleshy coat, and makes holes in the *Guts*; then comes blood, mixed sometimes with pituitous matter or *fanes*, and sometimes with bile, which is the reason why the excrements sometimes look yellow. And sometimes the Stomach it self is affected by consent, because of its proximity.

I dare boldly affirm, upon experience, that both the small and large Guts are affected in this Disease. For in opening of six Bodies, that died of Dysenteries, I found both the small and large Guts full of purulent tubercles, which were black and sphacelated; and in one of them I found the *Pylorus* of the Stomach quite sphacelated and corroded; which Patient nevertheless was troubled with violent Vomiting, and ended his days miserably in Convulsions. *Helmont's* opinion suits with this, who lays all the blame in a Dysentery upon the *Pylorus*, because it expels out of the Stomach, and draws the cause of the Disease thither. We reckon also, that the glands of the Guts do suffer, and instead of laudable juice send out Blood.

§. 3. A Case.

A Boy thirteen years of age, addicted to eating of horary fruit, in Autumn complained of gripes all along his *Colon*, but they lasted not long; yet after his pain he presently went to stool, and voided slimy excrements with great flakes and fat swimming at the top, with a little Blood on the outside, whence I conjectured, the lower guts were hurt. But within eight days (thanks be to GOD) he was cured by the Remedies, which shall hereafter be mentioned.

§. 4. Diagnostick.

NOW we will go to the Diagnostick, without more to do. People in Bloody Fluxes are forced at short intervals to void pituitous excrements with gripes, a chills preceding, and heat fol-

lowing; and then the excrements are sometimes mixt with extravasated Blood. Sometimes there comes away purulent and bloody matter, sometimes pure Blood is voided, sometimes it is clotted and sometimes sharp; for I always observe there is an acrimony of Blood in the Patient, which preceeds this Disease (and thence we derive its malignity) which if it be Malignant, it shows other signs of Malignity; but it often appears to be one thing, and really is another. There preceeds, as I said before, a chills, the common fore-runner of a Fever, which usually arose from sharp or pointed Particles, that were preexistent in the Blood, and caused that disturbance and vellication of the Nerves, then a continual heat ensues upon the enraging of these Sulphureo-Saline Particles, which not only exalt and disturb the mass of Blood, but put the very Spirits upon violent motion. Gripes do most torment, by reason of a violent corrosive, pertinaciously fixt in the fibres of the Guts, which spasmotick Convulsions are now and then continued from the pained Guts to other parts, that is, with a violent disturbance of the animal Spirits.

The remote cause therefore seems to be a salvage acid, pricking, cutting, and irritating the fibres of the Guts. There is also thirst, which here not only arises from the almost total evacuation of the *serum* by frequent stools, but from a sharp salt, which makes the Throat dry and parched. The Patient lies awake all night, because *serum* is wanting, and the sharp Particles, that is, those salvage Salts, not well according, do open and

and dilate the pores of the Brain. And by these same Particles the Nervous fibres of the Mouth of the Stomach are often vellicated; and therefore the Heart-burn is often a Symptom. Falling down of the Arse-gut, and a *tensus* sometimes afflict People in this Disease, which undoubtedly arises from the prickings of those sharp Particles, which sollicit the fibres of the Guts to excretion. For the Guts being continually prickt and vellicated, are drawn together by virtue of the peristaltick motion, and thence arise divers inconveniences, which are frequent in a Dysentery. Sometimes Blood, sometimes bile, sometimes coagulated serum (which they call Phlegm) tinges the excrements, according as the humor or the morbid product is discharged in a greater or less quantity. Oftentimes the Patients feel an acute pain about the Navil, that passes like lightning through the Guts, especially the small ones, which are most Nervous. The pains that are above the Navil and in the Sides, signify that the larger Guts are affected. The rumbling and roaring of the Guts proceeds from a flatulent Gas, produced by an acid. If there be a Gangrene, the part is without pain, and then there is a snake in the grass. If there be an Ulcer in the small Guts, the pain is more acute, than if it were in the large. Sometimes there is restlessness, and that from a sharp intemperature: And then the pain is more acute and pricking.

§. 5. Cause.

ALl things being now premised, which are requisite to the

knowledge of the Disease, according to the nature of our design, it remains, that we consider, what belongs to the Aetiology. The Ancients acknowledge an Ulcer of the Guts for the immediate cause; and for the remote, sharp putrescent Humors, bred in the Guts, evacuated out of the larger Veins, from the Spleen, Liver, Mesentery and other parts, which sollicit the expulsive faculty to frequent stools. They also blame Salt Phlegm, or yellow Choler, or black or adust Choler. And they do not doubt but this Disease also arises from frequent crudities, sharp and bad meats, fruits, poysons and from violent purgers. In a word, they fly to their Quaternity.

§. 6.

IN the opinion of the Chymists this Disease may be ascribed either to a dissolved Salt, which having acquired acrimony in the Guts, burns and corrodes them like a secret fire; or to a dissolved Tartar, and that scæulent and not mature, running up and down the Guts; or in particular, according to *Quercetan*, to arsenical, corrosive particles.

§. 7.

Helmont blames his acidity, otherwise the grateful *Nectar* of the Stomach, that angers the *Archeus*, who presently rises against this strange enemy lodged in the folds of the Guts, to expel him. For the *Pylorus* is in a rage; and then the angry *archæus* of the *pylorus* disturbs the whole œconomy; and hence comes the Bloody, mucous and fibrous flux,

§. 8.

Willis suspects, that the more excellent juices, to wit, the nervous and nutritious, joyued to the solid parts of the body, are despoiled of their temper in the bloody-flux, are as it were melted down and abound in the mass of blood, are carried by the coeliac vessels towards the stomach and guts, and then ouze out by the mouths of the Arteries. And thus he blames the sharp Particles, not only obvious in the first ways, but the degenerate Particles also, which ought to be evacuated and are not, for want of transpiration, because so the recrements of the degenerate blood are driven to the guts, and there make their way by opening the coeliac vessels, whence arises this pernicious and sometimes malignant and contagious disease. Of which see the Author himself on the *London Dysentery*.

§. 9.

Sylvius attributes the Cause of this Disease not only to sharp bile, and an acid pancreatick, juyce, by which he as well as others, thinks the guts are ulcerated and eaten, whence sometimes proceeds that plentiful excretion of blood, and chiefly of Pus, but he says, that generally this Disease arises from an acid humour, and not only from a corrupt and over sharp bile. For the lixivious Salt of the bile, being made very sharp, may indeed cause a gangreen, but seldom or never an Ulcer. Because, as he says, an Ulcer is an effect of an Acid, not of any thing lixivial.

Wherefore unless an acid and sharp humour be mixt with the bile, a Dysentery will never arise; but an acid and sharp humour alone, carried to the guts, may cause one.

§. 10.

Cartes pretends hooked, pointed and forked Particles, consisting of mere Cubes aptly and conveniently disposed and connexed, that looking this way and that way tear, divide and perforate the Membrane of the Guts, and so produce an Ulcer of the Guts, which Particles were preexistent in the Mass of Blood, and often are precipitated to the Guts.

§. 11.

WE in this Disease blame the sharp saline Particles of the Blood, namely the salvage Salts, which do not well accord, yea, the saline Dregs, that often stick in the first ways, which according to *Cartes* are pointed, to *Willis* sulphureo-saline, to the Ancients bilious, pituitous or serous Humors, or according to the Chymists mercurial and arsenical Particles, especially in a more malignant sort where Spots are observed, helleberrine and colocynthiack Particles, which offend the Guts, vellicate and break their Fibres, and at length tear their Coat. For the Arteries and Veins are often so dilated and broken in their extremities by a precedent *orgasmus* of Blood, that they pour the Blood into the Guts. Without doubt a corrosive Acid predominates about the Guts in this Disease, whence that sordid Ulcer is produced: But

I opened two that died of this Disease, and found no Ulcer in their Bodies, but the *intestinum rectum* gangrened. For all Humors, saturated with this strange Acid, by their corroding Faculty penetrate the inner substance of the Guts, dilacerate and erode their Glands, bring forth Blood, and cause an intolerable pain in these orbicular, sensible Fibres, so that sometimes a Gangreen and at last death follows. This Disease therefore may easily be contagious by reason of malignant, arsenical, that is, corroding taints, which exhale, infect another Man's Mass of Blood, and so communicate this disposition to the Guts. For saline Particles may easily acquire a heterogeneous, malignant and eroding nature, which may impress such violent Tortures on the Guts, and so may infect the whole Body with this vicious taint, by benefit of Circulation. An epidemick Dysentery arises from an Air infected with subterraneous exhalations. The procatactick cause of a Dysentery is chiefly a bilious intemperature, and an infected Air.

§. 12. Prognostick.

IT is a dangerous and an acute Disease, and the Prognostick uncertain. A malignant Dysentery is worse than a benign one: for it has a Fever with it. In long Dysenteries loathing of ones Meat is bad, with a Fever worse, if little Lumps of flesh, as it were, be voided, it is mortal according to Hippocrates, s. 4. aph. 26. Raggy Excrements also are reckoned for a mortal Sign. And as Hippocrates says 2. præf. 23. This Disease is worse for old Men and Children, than for middle aged Peo-

ple. He that voids pure Blood, with continual and momentary Stools, Anxiety of Heart, cold Sweat, Watching and immoderate Thirst, is in a hopeless condition, as I have observed several times. If the small Guts be exulcerated, there is more danger; and they are more difficult to cure than the large; because they have more subtil, nervous Fibres, and more Vessels, which pour out abundance of Blood, and cannot so easily be united; yea such Ulcers are oftentimes Mortal. Hippocrates also declares, That a Dysentery from black Choler is mortal. I have often observed Worms come up at the Mouth, and the greatest part of them died. If an Hiccough or Vomiting supervene, it is a bad Sign, for it argues much sharpness, which causes Convulsions. If the Patients faint often, and they have the Hiccough, it is a very bad Sign. This Disease sometimes finishes its course in fourteen Daytime, sometimes it lasts six Weeks, and for all that the Patients dy. A Dysentery, which is attended with greater Symptoms, Heart-burn, Fever, loss of Apperite and Spots, threatens more danger. If Sleep be wanting, it denotes an excessive sharpness in the Mass of Blood, so that the Acrimony reaches the Membranes of the Head, where it causes Watching by raising Vellications. If one lose his Senses, the Case is as bad: for it signifies an intense Fever.

§. 13. Dietetick Cure.

NOW we will hasten to the Cure. The Method for curing a Dysentery is this. First, there must be a course of Diet. The Air there-
fore

fore must neither be too hot nor too cold, but temperate. For an over hot Air sharpens the Bile (which, according to *Sylvius*, consists of much lixivious Salt, a little Water, Oyl and Spirit) whereby the Blood is filled with these saline Prickles, and it makes its way into the sanguiferous Vessels of the Guts. Sometimes impure and malignant Taints, consisting of a sharp, volatil Salt fly up and down the Air; whence this Disease often arises, and then it is called malignant or epidemical, especially where the saline Prickles are exalted to a higher degree, and rendered as it were arsenical, which must carefully be avoided. Cold also must be fled from; because it contracts the pyramidal *papillæ*, that are in the Skin, and the numerous Excretories arising from the milinary Glands, either lying under the Skin, or interwoven with it. and then not only sensible Sweating, but insensible Transpiration ceases. And when these excretory Tubes are obstructed, the Serum in the Body is daily encreased, and sharpened; which appears from the greater slipperiness of the Belly, which comes upon the stoppage of these Excretory Passages. Therefore we must take great care, that in every Dysentery the Pores and Passages of the Skin be kept open as much as possible, and that the Body be continually disposed to a gentle Sweat, by which very thing these enormous Loosenesses are not a little stoppt; and if there be a Fever withal, it is also successfully cured by Sweating. The Air also in the Chamber must be purified, as in the Plague.

The Meat must be of good Juice and easy Digestion, such as Barly,

Pisani, Eggs, Rice, Oatmeal-Grevel, Broth of Mutton or Veal boyled with Endive, Purslain, &c. On the contrary forbear Meat, that is salt, raw or smoak-dried, but especially horary Fruits, such as Plums, Apples, Pears not ripe, Grapes, Nuts of divers kinds, Pulse, Cucumbers, Melons, Pumpions, and things of the like nature. And here also all sweet sugared things must be excluded, which have concealed in them an Acid, and sharp Poissen, which by fermenting do variously disturb the mixture of the Blood, and may easily cause this Disease. On the contrary, as we said before, all Meat that is temperate, and endued with a balsamick viscosity, is good, such as Rice, Barly, &c. The Drink must be Chalybeate. Yet we must take notice, That new Steel ought not to be taken for Astringion, because it rather opens, but it must be often quenched before: for the oftner it is quenched, the more it binds. A Decoction also of Barly is good with shaved Harts-horn, Tormentil-root, and dried Quinces; or a Decoction of Mastich, Deer's Pizzle or a Bulls; or for some Patients an Emulsion of sweet Almonds made with Chalybeate Water; or red Wine diluted with some Decoction, but by all means avoid strong and generous Wine, Sack, Brandy, &c. for by the excessive use, or rather abuse of Wine, great and unusual Fermentations and Disturbances are produced in the Blood; and so the extremities of the Veins and Arteries are dilated and broken by the violent Motion and Turgescence of the Blood, whereupon the Blood flows in greater quantity into the Guts. Therefore here

you

you must be careful, otherwise you kill your Patient.

Rest must here be advised to.

Sleep also, if it come not of itself, must be procured: for the Flux is further irritated by Motion and Watching, the Blood is made sharp, and the Exulcerations are exasperated; on the contrary by Rest and Sleep Fluxes are stopp'd, Pains are eas'd, Strength is recruited; so that we may say with *Ætius*, *Sleep is the only relief for People in Dysenteries.*

Let the *Passions of the Mind* be moderate, for by the excess of them the Spirits are made violent, and by consequence the Blood is sharpen'd. We must therefore take care of Anger, for it sharpens and irrages the whole Mass of Blood. Keep the Mind as cheerful as may be, because by cheerfulness the Animal Spirits are carried pleasantly through the Nerves, which keep the Mass of Blood and other Humors in a gentle quiet frame. Physicians therefore do ill, who at their first coming denounce great danger to their Patients, which makes them sad and timorous, and this encreases their Disease, and hastens their death.

The *excreta* and *retenta* should be as they ought to be. The Excrements should not be various: For it argues, That the Humors part one from another, which is a bad Sign. The Patient also must have a care of his own Excrements. A little of *Digby's* sympathetick Powder may be strewed on them, or the Patient may go to Stool over the *caput mortuum* of Vitriol of *Mars*, which has a magnetick and an admirable virtue in curing a Dysentery, as *D. Michael* in the *Miscellanea curiosa*, relates.

§. 14. Pharmaceutick Cure.

THESE things being premised concerning the Diet in this Disease, the next thing is to describe the Method, whereby its Cure may be performed aright. We will therefore begin with the *Ancients*, whose Method of Cure is this following. In the beginning both they and the *Moderns* hold, the Flux should not be stopp'd, but first of all they purge the Body, they wash the Guts with Clysters, first with abstergent ones, then with such as temper the violence of the sharp Humors; last of all they give astringent ones, and add such Medicines as are proper to heal and cicatrize. I have no mind to give you any Receipts, because abundance of Books are full of them. They give Evacuators also by the Mouth, such as Rhabarb, Tamarinds, Myrobalans, Syrup of Roses solutive, of Cichory with Rhabarb, &c. After these they use Avertents, to wit, Bleeding, Frictions, Ligatures, Baths, &c. Then they conclude the Cure with things to stop the Flux, and strengthen the Stomach and Guts. And because there are above a thousand Astringents, we will not set down any; beside what are confirmed by experience, which any one may see hereafter, when we give our own Judgment. They order also divers external things, they apply Baggs of divers astringent Herbs and Roots to the Belly; they make divers astringent Liniments, Plasters and Cataplasms; they advise also to guard the Stomach, seeing it may suffer by consent, yea, it may occasion the Disease. Neither

ther would they have the Symptoms neglected. They therefore ease pain by Anodynes, and when these will do no good they fly to Opiates, to wit, *Philonium Romanum*, *pilula de cynoglossa*, *requies Nicolai*, and Treacle. They quench thirst with Juleps made of sowre Juice of Pomegranates, Currans, &c.

§. 15.

THE Chymists have excellent and approved Remedies in this Disease; and they observe the following Method; at first they do not give Purgatives, but Diaphoreticks: for they think, That in a Dysentery there is always something poisonous. They therefore make a pestilential drink, they give Treacle-water. After the Poison is expelled, they give some comfortable binding thing, made of *crocus Martis*, Coral, *terra sigillata*, Bloodstone, Plantain, Shepherds-purse. But their highest Strengtheners they seek in Gold, *laudanum perlatum*, Oyl of *Mars*, Treacle, Mummy. They prefer Tincture of Coral and Emerald before all others, nor do they condemn all these Medicines that are taken from Vitriol and *Mars*, such as *tartarum vitrioli anodynum*, *ti-Bura Martis astringens*, *crocus Martis*, *panacea solaris Wildegansii*, and a thousand other things, which you may meet with here and there.

§. 16.

Helmont commends the Blood or Runnet of an Hare, which appeases the rage of the *Archæus*, also a Horses hoof, but not luxuriant, otherwise it would do much harm. He thinks also, That the

Yolks of two Eggs hard, or true *laudanum* without *Opium* will still the rage of the *Archæus*. He holds, That these things likewise do appease its rage, Rhubarb, Quince-Wine, Pomegranate-Wine, Chalybeate-Water with toasted Bread and Nutmeg, Emulsions, Opiates, Clysters of Chalybeate Milk, &c. Externally he highly commends a Weather's Cawl fried in Oyl of Roses and applied.

§. 17.

Allis his Method of Cure is this following. At the first he stops and moderates the Flux a little by the following or some such Medicine;

Take of Conserve of red Roses vi-
triolated two Ounces, Venice
Treacle one Ounce, Powder of
Root of Tormentil, *contrayerva*,
Pearl, Coral prepared each one
Drachm, Syrup of Roses what is
sufficient. Make a Confection.
Let the Patient take the quanti-
ty of a Chestnut every four or
five hours, drinking after it
three Ounces of the following Ju-
lep.

Take of Water of Mint, Bawm, Cin-
namon, Barly each four Ounces,
Treacle-Water two Ounces, Pearl
one Drachm, Sugar one Ounce.
Mix them.

Or he may take this follow-
ing;

Take of Venice Treacle one Drachm,
laudanum liquidum cydoniatum fif-
teen Grains. Make a Bolus to
be taken at the hour of rest.

Withio

Within a day or two after let the Patient take a purging and binding Medicine;

Take of the best Rhubarb two Drachms, Citrine Myrobalans one Drachm and an half, red Saunders, Cinnamon each one Scruple. Make an Infusion for a Night in as much Plantain, and Barly-Cinnamon-Water, alike quantities, as shall be sufficient. Make a strong expression; to which add of Cinnamon-Water two Drachms and an half. Make a Potion.

Every Evening he gives a good Dose of *laudanum opiatum*, and he never knew this Medicine hurt any Body in the Bloody-flux; either because the narcotick quality of the Medicine is conquered by the acid Juice of the Stomach, or because its Particles, that are transmitted to the Blood, are presently cast off again with the Bloody Stools, so that they cannot hurt the Brain, as he says, in his discourse upon the *London Dysentery*.

He also commends several Powders, made of astringent and strengthening things, compositions of which you may find in his Books. To cure the Gripes and Erosions of the Guts, he uses Clysters very frequently.

Take of the Decoction of *St. John's-wort* tops, with Sheeps-feet or Cawl eight Ounces, *Venice Treacle* two Drachms, Oyl of *St. John's-wort* half an Ounce. Mix them.

You may see more in his Treatise of the *London Dysentery*.

§. 18.

Sylvius thinks the cure of this Disease, consists in the correction and evacuation of the pre-cant Humors, cleansing of the Ulcer, healing of the Vessels and the Ulcer, and in binding the excessive Flux. Among Remedies, that temper a saline and acid Acrimony, he magnifies volatil oylly Salts, which temper an acid Acrimony, and by reason of the Oyl dull the Acrimony of the Bile; for which end he commends Emulsions, made of the Seeds of Poppy, four greater cold Seeds, and some distilled Water. When the Acrimony is a little corrected, he advises to purge it off by a small quantity, that is, half a Drachm or a Drachm of roasted Rhubarb, to the end, that when the evacuation is over, the Belly may be a little more bound. If there be occasion, a little *mechoacan* or *Jalap*, may be given in form of a *Bolus* with a little *diascordium*, or in infusion in Plantain-water, with Syrup of Roses solutive. Then Medicines will be proper which concentrate and soak up an Acid, such as Coral, Crab's-eyes, Chalk. Also for the better consolidating the eroded Guts, and their Vessels, he advises Dragon's-blood and Blood-stone. He absterges and heals the eroded Guts with Clysters of Cows Milk, *Venice Turpentine*, the Yolk of an Egg and Honey of Roses, which he advises to be often given. To which end new Treacle, and the Author's *diascordium*, taken in a small quantity, are efficacious Medicines. Then for healing of the Ulcer he prefers Balsam of Peru, *balsamus sulphuris anisatus* or *succinatus*, or Turpentine, before others.

Here

Here also in pertinacious and urgent pains, he advises use of Opium. And there are divers externals, both Liniments and Cataplasms made of Paregorick, Anodyne, Astringent Medicines, which he would not have neglected.

§. 19.

According to the Cartesian Principles this Disease may easily be cured by Medicines that temper the sharp humors, and by Evacuators. First of all therefore about one scruple of Rhubarb may be given, and the use of it may be continued for some time, for after gentle purging it binds moderately. Emollients also, Lenitives, and things that help fermentation, may be used. To qualify the Humors, a Decoction of Barly is good, and a little Gum Tragacanth may be added to the Decoction, or some Gum Arabick, or toasted Rhubarb. The following *Bolus* may be of use;

Take of new Treacle one Drachm, with which you may sometimes mix of *laudanum opiatum* one Grain, and sometimes of Camphore three Grains. Make a *Bolus*.

Afterwards gentle Astringents may be used, such as Marmelade of Quinces, Conserve of Roses, &c.

Take of Conserve of Roses three Ounces, *diacydonium simplex* two Ounces, preserved Nutmeg one Drachm, *species diarrhodon Abbatis* half a Drachm. With Syrup of Coral what is sufficient, make an Electuary. Of which he may often take the quantity of a Nutmeg.

Coral is also good here, because it restores the fermentation of the Blood. Among Externals divers Emollients and Astringents may be made use of, which we shall abundantly mention hereafter.

§. 20.

WE encounter this tyrant with a purging Medicine, unless the Enemy make his approaches privately and cunningly; for then we rather chuse to give Sudorificks and Alexipharmacks. In the beginning of this Disease, we should, in my Opinion, diligently observe, That we bind not too much, before the sharp Particles, that are mixt with the Humors, be evacuated, and well tempered; otherwise you will but try in vain to bind. For Astringents will not then do the business, but Nature will sufficiently bind, when she is rid of the sharp Matter, because what is heterogeneous ought to be evacuated, otherwise the Patient will relapse. Therefore about half a Drachm of Rhubarb may be often given in a solid form (which after gentle purging binds a little) or if there be occasion, and there be a great quantity of Serum, I usually give, to good advantage, a little *mechoacan* or Powder of Jalap. In Children a little Syrup of Cichory with Rhubarb and Cinnamon-Water will be good. An abstergent Clyster may be also given of a Decoction of Barly with Seeds of Plantain at the first, and Conserve of Roses with the Yolk of an Egg; the next day we give Syrup of Roses with Rhubarb, adding half a Scruple, or a Scruple of Rhubarb in Plantain Water.

Our Shops have the following Powder;

Take of Rhubarb moderately toasted six Drachms, Mechoacan, *Chebuli* Myrobalans toasted each half an Ounce, Nutmeg four Scruples, Mace two Scruples. Mix them. Make a Powder. The Dose one Drachm.

When the Enemy is repulsed, we proceed to moderate Astringents and Mitigators; among which these excel, divers Opiates, terrecous, subacid, testaceous, chalybeate and glutinous Medicines. I have a mind, for the sake of young Physicians, to set down some Compositions of these Medicines. By which Medicines (I can say it without boasting) I have often put the Enemy to flight; especially by this one I cured above an hundred, when the Plague was epidemick, to wit, Oyl of sweet Almonds drawn without fire, mixt with Juice of Citron, and taken often in a day; continued for several days, but first giving toasted Rhubarb.

Among Electuaries I have often used this following, with good success;

Take of old Conserve of Roses two Ounces, *Venice* Treacle one Ounce, *diacydonium simplex* one Ounce and an half, *species diarrhodon Abbat* half a Drachm. With a sufficient quantity of Syrup of Citron make it into an Electuary.

Or an Emulsion may be made of a Decoction of Plantain Seeds in Barly-Water, sweet Almonds, and the four greater cold Seeds.

Others spread Oynment of Ro-

ses on toasted Bread, and sprinkle upon it of Powder of Nutmeg, Mint, Mastich, red Roses each half a Scruple, Camphore three Grains.

Some commend Crystal by itself, because a certain æthereal Matter flows through its Pores, which restores the Fermentation of the Blood.

Some like the *lapis bezoar orientalis*. Others are for half a Scruple of Extract of Coral in Plantain-Water. The following Emulsion often attained the desired end;

Take of the four greater cold Seeds each two Drachms, white Poppy three Drachms, Plantain one Drachm, sweet Almonds one Drachm. With Water of Quince juice, Leaves of Oak, Plantain each two Ounces, make an Emulsion. Add to it of *terra sigillata* half a Drachm, Cinnamon-Water one Ounce, Marmelade of Quinces half an Ounce. Mix it for several times.

For stronger Astringion (which nevertheless we must have a care of) *crocus Martis astringens* is good, or the *caput mortuum* of a Bloodstone, or any sealed Earth, because it contains something of a Metal in it, whereby it opens and binds gently: this will be good, where there is any malignity. *Floris Martis* and prepared *crocus* are good; for they temper with a little astringion, and also open.

To heal and mitigate, the following or some such Clyster may be given;

Take of Flowers of St. John's-wort, Pomegranate Flowers, Leaves of Sanicle, Plantain, Comfrey each one handful, Root of Bistort one Ounce,

Ounce. Boyl them in a sufficient quantity of Chalybeate Milk or Water, adding some Goat's Suet. Or if you have a mind to glutinate more;

Take a Decoction of a Sheep's-head and feet, *Venice Turpentine* dissolved in the White of an Egg and Balsam of *Pernu*.

And if the Pains be very urgent, one Grain or two of *laudanum opiatum* may be put into Clysters, but we must never go higher. I remember an example of one, who had a Clyster given him by an Apothecary, in which a Scruple of *Thebick Opium* was dissolved. Upon which the Patient died presently of an Apoplexy. Nor are Oyls good in Clysters, because they contain much acid in them; or saline things: But a drop of *balsamus sulphuris tartarizatus*, or *anisatus* may very well be added to a Clyster. Yet Sudorifics must always be given between whiles, and Bezoarticks and camphorated Medicines: for I ever suspect something of malignity in this Disease. Among which *tinctura simplex*, *camphorata*, &c. are excellent. Now by Bezoarticks the strength of the malignity is broken, the Blood is restored to its perfection, the Acrimony of the Humors is soaked up and corrected, also every foreign Ferment is driven out by insensible transpiration, the Fever it self and the Contagion is taken away by the root, and at length wholly extirpated, and in a word, the whole Kingdom is restored to its pristine liberty. If therefore the Patient after he has gone often to stool find any relief, we must insist only on Alexipharmacks: let

instance, *pulvis bezoarticus pretiosus*, *Pannonicus ruber cordialis*, *pulvis bezoarticus widelii*, *Hoffmanni*, *tinctura bezoartica* mixt with anodyne Essence, are found by good Experience to be excellent. For so the malignant Taints are discaised, and the Acrimony of the Humors is taken off.

In Dysenteries without pain we must have a care how we use Opiates. For in this case Bezoarticks must needs be better; as I observed by sad experience in Mr. B. a Councillor of *Nassaw*, who upon drinking the Waters at *Swalback*, fell into an indolent Dysentery, and took of an Apothecary upon whom he relied much, a certain mixture, it may be with too great a Dose of *laudanum opiatum* mixt with it, and so the next day he slept his last. See *an. 2. ephem. German.* And the saying is in this case true, that it is worse to have no sense of pain, than to be in pain. Consult in this case *Minnaeus* a Doctor of *Padua*, who observed that all Dysentericks, who by the advice of their Physician took *Opium*, died for it. *Hoffmannus* gives a reason, *de usu & abusu medicamentorum chymicorum* p. 30. because the Ulcers of the Guts are made more putrid and foul by the *Opium*. But, to confess the truth, we, as well as *Willis* and *Widelius* (who tells how he cured above five hundred People with Opiates, *Opilog.* p. 122.) make bold to affirm, That scarce any true Dysentery can be conveniently cured without Opiates, and that the labor is lost in Astringents; but they ought to be mixt with volatile Bezoarticks in the beginning, or rather in the middle, and with more fixt ones in the end. If any one desire authority, let him read

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BACIUS

Basilius in his Notes upon the fourth Chapter of *Garzias ab horto. Horstii consil. dysenter. c. 3.* The illustrious *Boyl* uses to give Rhubarb with a Grain of *Laudanum*, and then a Milk Clyster. *Burhus* in a letter to *Bartholine* testifies, That there is not a more present Remedy for dysenterick People than Rose-water, wherein Gold has been several times quenched. When we must bind, the famous styptick Liquor exceeds all, which is made, not of Vitriol, as some have been easily perswaded, but of a Martial earth impregnated with a magnetick Water, as the excellent *D. Waldsmidius* knew very well in *Fundament. Medicin. ad mentem neotericorum delineat.* Here follows a styptick dysenterick Powder;

Take of *panis sambucinus*, Root of Tormentil each two Ounces, Bole Armenick, *terra sigillata*, Emerald prepared each half an Ounce, Nutmeg two Drachms, Harts horn prepared without fire three Drachms. Mix them. Make a subtil Powder.

Mabius advises to this dysenterick Powder;

Take of Powder of Blood-stone one Ounce, burnt Harts-horn, *crocus Martis* each half an Ounce, Magistery of Coral made with Citron Juice one Drachm, *medulla lapidis* one Drachm and an half. Mix them. Make a Powder. The Dose one Scruple.

If there be malignity, he adds the slough of Snakes. I should advise Spirit of *terra sigillata* mixt with other Medicines. Tincture al-

so of *Catechu* and its *terra mortua* will do good.

External Topicks designed for the Gripes, and Paregoricks have also their use. Abundance of things are commended by Authors: we shall here give you the most select and approved. And *Kesslerus* commends *Venice Treacle* half an Ounce and Vitriol of *Mars* applied to the Navil. *Crollius* and *Agricola* mix *terra sigillata*. We put *thiariaca celestis* or *laudanum opiatum* into the Navil. Some use this following;

Take of Bread roasted, besprinkle it with Vinegar of Roses what is sufficient; foment the Belly.

Brunnerus in consiliis Medicis commends externally a Cataplasim of the Crumb of Bread and Tormentil Roots boyled in Wine or Vinegar to the consistency of a Pultef. Also our balsamick mixture of Chocolate, &c. applied to the Stomach will do good, because it often suffers by consent.

Borellus magnifies Goose grease applied to the Soles of the Feet. A Plaster of Bole, which has any thing Martial in it, applied all over the Belly, is very astringent. The Cawl of a Sheep or a Calf, applied to the Belly while it is hot, will ease the Gripes. And here Prince *Rupert* his Unguent of Toad-flax and Oyl of Balsam-Apple is good, if the Back-bone be anointed with it. Bags of paregorick Herbs, and other things, as there is occasion, may be applied to the Belly.

If a *tensismus* be troublesome, besides *Myrsicht's* fumigation with Tap-

Tap-mullein, Wedelius his approved Powder made of burnt Hartshorn, Mastich subtilly powdered, &c. will do good: And there is an Unguent, which can never be sufficiently commended, made of fresh Butter with fine Powder of *lapis scissilis*, with which part of

the *intestinum rectum* may be anointed, whereupon the Acrimony and Pain presently cease. The *intestinum rectum* may be fomented also with warm Milk. And Prayers, the best of Medicines, must frequently be used.

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CHAP.

C H A P. VI.

Of the Iliack Passion, or Twisting of the Guts.

§. I.

THIS Disease is called *Iliack* or *ειλεός*, either from the Part affected, that is, the Gut called *Ileon*, or from its Symptom, *εἰλεῖν*, from turning or twisting, because it is believed, That in this Disease the Guts are twisted. It is also called *Chordasfus*, which signifies the stretching of a Chord, from the likeness of it; for if you lay your hand to the Belly, you would think you felt a tight Chord. Some call it *volvulus* or *convulvulus* from the twisting of the Guts. Some call it a *Vomiting of the Ordure*. Others name it a *Disease of the small Guts*. Some account it a *sharp Torment, an excess of the Colick*. The followers of the barbarous Physicians, and the Vulgar call it *Miserere mi*, by reason of its violent and most exquisite pain, and because it is a Disease that deserves commiseration; so that they who are afflicted with it, may well cry *miserere mi*.

Description.

This Disease is defined to be, a most bitter pain of the small Guts, With a pertinacious Obstruction of

the Belly, and a troublesome ejection of the Ordure by Vomit, arising not only from the straitning of the Guts; but also from their Convulsion. Where *Brassavolus* says well, that for two and twenty years of his Practice, he never met with the Iliack Passion without Vomiting.

Division.

The Colick pain is distinguished from the Iliack Passion, because in the Colick the large Guts, but in this the small are affected. We reckon that this Disease may be bred, as well in the large as in the small Guts, because there may be a Convulsion in all of them, and so the peristaltick Motion may be inverted. For Nature has endowed these Parts with various windings and turnings, and hath found out a peculiar peristaltick Motion for the Guts, whereby, that which otherwise could ly still, is by the help of Animal Spirits, flowing into the Fibres of the Guts, put forwards; and what is unprofitable, is expelled; which Motion is made by means of the Fibres (and every Coat has abundance of them) which one may behold with ones Eyes

Eyes in the Belly of any Creature opened alive; and I have often beheld these Motions with delight, like Snails creeping on the ground. The Guts therefore seem to have a kind of waving Motion, like that of Leeches, Worms and other creeping things; yea, oftentimes, when I have cut open Creatures alive, I have seen the Guts strain with a waving Motion, and drive the Chyle and Excrements downwards, as if they had been stript through a narrow ring. The like Motion also is ascribed to the Wombs and *serota* of Animals; but especially to their Stomach, by *Thomas Cornelius Consentinus pro-gymn. 6. de nutritione p. m. 234.* in these Words: *One may observe the like Motion also in the Wombs and serota of Animals; but this Motion appears no where more than in the Stomach, which though outwardly it be obscure, yet in the inside, it is not only rationally concluded on, but one may behold it with ones Eyes. For upon cutting open the Stomach of a Creature quickly, a frequent and various Motion is perceived. And the reason of this tremulous Motion, is, because there are Animal Spirits still in the Fibres, and then they betake themselves to flight, wherefore this tremulous Motion remains still; which one may observe also in the Heads of Oxen or other Beasts, that are new killed, where the inner Fibres of the Neck are a while in Motion, which I also saw in a Man, who was beheaded. These things I was willing to premise, as worth the knowing. That the cause of this Disease might better appear, of which we shall treat designedly hereafter. Now Practitioners take notice of three sorts of Iliack Passions. One is Stercoral, which has its rise from the Ordure and Superfluities of Meat, which*

should be voided by Stool. Another is Humoral, which is caused by a thick, viscid Humor, fixt in the Guts, or by a sharp and corroding one. Another is Flatulent, which arises from Wind pent up, which seeks a Passage by violence. All which things the following case will in some measure declare.

§. 2. A Case.

While I was Physician to the Princess of *Nassaw*, Daughter of the Prince of *Orange*, I met in my Practice with a Noble Maid, *N. P.* who had been for several Months troubled with Costiveness, a *tenesmus* and Fits of the Mother, without doubt, through Grief for the death of her betrothed Husband, who was slain in the Wars, who thereupon grew Melancholick, so that she went not at all to Stool, she had a dull tensive pain in her abdomen and hypochondria, and her trouble was such, and the distention of the abdomen so great, that for very pain she could not rest in her Bed. There succeeded loathing and enormous Vomiting, at first indeed of what she took, afterwards of divers things contained in her Stomach and Guts, especially a viscid and tough Humor, and last of all, of putrid and corrupt Chyle, quickly attended with Swoonings and Convulsions. Yet (praise be to God) the Patient was restored to her Health by the Medicines hereafter mentioned far sooner than was expected.

§. 3. Part affected.

The Part affected therefore is by the consent of all Authors, reckoned to be the *Ileum*, that small Gut, which as it is the last among the Guts, so it is the longest,

Twenty hand-breadths in length, and but about an inch wide : wherefore it is narrower than the rest, and for that reason, they say, it is the more apt to be inflamed, following *Galen's* reasoning l. 3. *de facult. nat. If one vomit Ordure* (says he) *you have a most certain Sign, that the small Guts are affected.* We, as was said before, do take the large as well as the small Guts for the Part affected : the reason is, because the thick, as well as the small, are capable of a peristaltick and convulsive Motion, yet so, as that in this Disease the *duodenum* is very rarely affected, the *jejunum* seldom, the *Ileon* most frequently. But I am perswaded the large Guts are seldom affected : for I have observed the Iliack Passion twice from an Inflammation of the *Colon*, which *willis* also observed. There is one wonderful thing that I have observed; a Woman in a Village of *Hanover*, called *Mittelbueben*, has had an Ulcer in her large Gut for three Months and upwards, which slipped out of her Belly into her Groin. It is eaten and looks black, the Excrements are stinking, without Vomiting, or any other Ail; she is yet living miserably, and is in the hands of a very skillful Surgeon, called *Widling*.

§. 4.

PRACTITIONERS mentions abundance of Signs, which declare the Iliack Passion, the chief of which, and the most necessary to be known, I shall here set down. They are bound in their Bellies, and we hear them always complaining of Costiveness, so that though they strive never so much to go to Stool, they cannot force any Ex-

crements out. Which *Galen* confirms, when he says, *In the Iliack Passion nothing goes downward.* And *Hippocrates* knew of old, That costiveness was an inseparable property of this Disease, where he says, *when the twisting of the Guts takes any Man, the Belly grows hard, and nothing passes downward.* There are also great Belchings and Rumbling of the Guts, at first they find a pain at their Stomach, Reaching and Loathing and Heart-burn. Wind torments them, and stretches their Belly; and there is rarely an Iliack Passion found, which is without Wind, as experience testifies. When the Disease encreases, the Pain is exquisite and intolerable, and the Patients feel a fixt and permanent Pain in one or more places, and that either very heavy, or tensive, or burning and throbbing. Sometimes there is a notable Tumor in this at that place of the Belly, which one may even feel with ones hand. In the progress of the Disease there are enormous Vomiting, and such, as not only bring up the Meat and Drink, and Humors very various in regard of their Causes; but the Chyle and sometimes the very Excrements, death quickly ensuing upon a precedent Swooning. *Solenander* *consil.* 16. l. 5. testifies, That Chylsters have been vomited, and Suppositories also; a wonderful instance whereof *Sennertus* gives *Medic. pract.* l. 3. part. 3. §. 2. c. 1. Upon which most grievous Symptoms there comes another of the worst portent, the Hiccough. Tossing and rumbling, want of sleep, sickness at the Heart, Thirst, a Fever, Fainting, coldness of the extreme Parts, Convulsions and oftentimes a miserable death attend this Disease.

Let

Let this suffice for the Diagnostick. He that desires to know more, let him consult Practitioners.

§. 5. Cause.

NO understanding Physician will go about to deny, That the consideration of Causes is very requisite for the true Method of curing Diseases. But oftentimes how abstruse this scrutiny of the Causes is, Practitioners to their great grief, do experience. Wherefore, according to our proposed Method, we will first consult the Ancients about the cause of this Disease, who say, it proceeds either from an Apoplex, or an Inflammation, or an obstruction of the Guts, which they hold, may proceed either from dried Excrement, or an Humor, or from Wind. And this Disease, according to them, is generally contracted from a continual corruption and crudity of Aliment, for the most part from fat flesh, which has been corrupted, also from unseasonable eating of Mushrooms, Shellfish, Beans, Pease, Medlars, Services and other poysonous and corrupt Meats. It may come from excessive drinking of Water that is preternaturally cold, especially if one be in a Sweat. They doubt not, but this Disease may proceed from Worms. And among other procatastick causes they reckon the abuse of several Non-natural things.

§. 6.

THE Paracelsian Chymists say, That the Colick and Iliack Passion are the same Disease, and that it lies between the Stomach and the blind Gut. And Paracel-

sus himself derives the Matter from a sharp Matter dissolved in the Guts by a pontick Salt; which Matter by its innate pontick stypticity contracts the Guts and twists them. For a styptick Nature closes the blind Gut, and all the Guts, and turns the Excrements sowre and into Wind, and so hurts them by running to and fro.

§. 7.

HElmont thinks not that the twisting of the Guts is a twisting and *apogum* of the small Gut, because it is repugnant to Anatomy, which shows, That that Gut is cloathed with the Mesentery, for its outer cloathing, and by the Mesentery is tied to the Loins. For, says he, if the Gut were twisted, besides its usual turnings, what should be the mover, with the twister? He therefore thinks, That the *Ileum* can only be obstructed by the internal Excrement, because that, and nothing else can do it; and so he says, the Gut *Ileon* (in which otherwise the Excrements use not to be hardened) is stopp'd up by unusual Excrement. He therefore constantly maintains, That this Gut can never be twisted nor loos'd out of its case, the Mesentery. Yet he acknowledges that Wind may cause this Obstruction; because in all that died of the Iliack Passion, he ever observed the Gut *Ileum* to be full of Wind. He also relates an Example, *l. de flatibus p. m. 251.* of Thomas Balbani of Antwerp, who offered the Physicians fourscore thousand Flanders Pounds for a Cure; and whereas they blamed the twisting of the Guts, as if they had been tied in a Gordian knot, and held him for incurable;

curable; he died indeed of the Disease, but when they opened his Body, they found nothing but a little hard Excrement in the small Gut sixteen inches above the blind Gut, and a great deal of liquid Excrement in the *Ileum* above it.

§. 8.

AUthius in this sad Disease thinks, That the carnos Fibres of the Gut are hurt by an Inflammation or Gangreen of the small or large Gut (as he observed it in the *Colon*) because in opening of several, who died of the Iliack Passion, he always observed that an Inflammation or Gangrene was almost in all the cause of their Disease and Death. Whereupon the Excrements restagnating towards the *Ileum*, do generally cause an incurable Iliack Passion. For, according to him, Contractions are caused, inasmuch as the Animal Spirits start out of the tendinous Rimb of the Mesentery into the carnos annulry Fibres, and out of the tendinous Fibres of the outmost Coat into the carnos longitudinal Fibres, both which they do so puff up and tumefy, that of necessity they must be shortened and contracted. For in a tender and very sensible Membrane, the Animal Spirits may raise continual and cruel Spasms and painful Corrugations, so that the peristaltick Motion of the Gut affected, whereby the Excrements of the Belly are forced downwards toward the *anus*, may be hindred, and quite inverted thereby.

§. 9.

Sylvius does constantly maintain, That in this Disease the Motion of the small Gut is inverted, with a vomiting of the Ordure ensuing. Because in opening those, that died of this Disease, he found the cause to be a Gangreen of the small Gut, and so great a Corrugation and straitning of the corrupted Gut attending it, that all passage of the Excrements downwards was stopt, yea, and that they were forced to a return upwards, and so to a miserable discharge by Vomiting. Another cause he thinks to be the slipping of the lower part of the Gut into the upper, or of the upper Part into the lower, and indeed by Wind forcing the Gut thither. But that the Guts are tied on a knot, or tangled, as some Practitioners hold, he utterly denies, and gives some reasons, why he does so.

§. 10.

And so the Cartesian deny the twisting of the Guts, and think that one Gut cannot slip into another, because they are all knit to the Mesentery, and they rather think, That the Iliack Passion arises from sharp Humors residing within the Membranes of the Guts, whereupon their expulsoy Motion is often inverted, because the Animal Spirits being excited by a certain irritation, flow into the ascending Fibres of the Guts, by which inverted Influx the Contents are only forced upwards. They judge, That this Irritation happens in this Disease, either from an Inflammation of the Guts, or from their Obstruction

struction by hard Excrements, or from their Compression in a Rupture.

§. II.

We judge, That in this case there is not only a straining but a contraction of the Guts. Wherefore we may well doubt, whether this Disease can have its rise only from the hardened Excrements, with sharpness, because a Gut will extend strangely. Wherefore we think the cause of the Obstruction of the Belly, of vomiting the Vitals, and sometimes the Excrements, and of the violence of the Pain, as Symptoms of the Iliack Passion, to be generally an Inflammation of the Gut *Ileum*, which offends the Animal Spirits: For when they are too weak for this affair, they cause a convulsive Motion, and by their *orgasmus* or rage in these tender orbicular Fibres, do not only straiten them and invert the peristaltick Motion, by rending them, cause most cruel pain. And sometimes a straitning of the Gut by the Humors continued among the Coats, when the Excrements, especially if they be hard, cannot pass, may be the cause of this Disease. For the Guts so affected by the Animal Spirits are compressed after an unusual manner, and are vollicated and convulsed by the Humors lodged between the Membranes of the Guts, and made sharp. For in some the inner Coat of the Colon is so tender and sensible, that upon taking a Clyster, though it be anodyne, the Spirits are immediately enraged, and being exploded among the nervous Fibres, puff up and distend the Membranes, and so create great

trouble all over the Belly. No wonder therefore, if partly through the Convulsion, partly through the stoppage of the Gut by hard Excrement, nothing can pass downward, and whatever is taken, and sometimes the very Excrements, are brought up. Which Excrements use to ascend, not out of the large Guts (because the Valves hinder the ascent of the Excrements) but out of the small Guts.

If therefore this Disease arise from an Inflammation, then there is an acute Fever; but if from Wind or any other Obstruction, then no Fever attends it: The pains from Wind are not so fixt, but that they may easily be dissipated. We believe also, That sometimes the Juice in these Glands of the Guts does so degenerate from its own nature, that it turns austere and pontick; whereupon the Guts are most closely straitned, from which straitning we do not question, but this Disease may often arise. Which opinion of ours the opening of three Persons, who died of this Disease, does confirm, in whose Bodies nothing could be found but a little straitness of this Gut; and since the Ureters and Neck of the Bladder may be so straitned by an austere Salt alone, why not the Guts? The antecedent Causes, are all such as can produce this Disease, in this case especially a Wind-Colick can do much. Worms entangled in Phlegm, stoppage of the Guts by Caruncles growing to them, or by pressure of the Guts in Ruptures either in the Groin, Navil or *Scrotum*, an Inflammation following. Finally the procatartick cause is the abuse of divers non-natural things; of which we shall speak in the Dietetick Cure.

§. 12.

AS to the Prognostick, this is a most horrible and dangerous Disease, and usually incurable. Hither these following Aphorisms of Hippocrates do relate, *f. 3. aph. 2.* and *f. 6. aph. 24.* They that have the twisting of Guts upon the Strangury, dy within seven days, unless upon the coming of a Fever abundance of Urine come away. And *f. 7. aph. 10.* After twisting of the Guts, vomiting, or Convulsion, or Delirium, is bad. If they, that are troubled with twisting of the Guts, grow deaf in Vomiting, according to *Coac. 72.* and become dumb, it is a sign that heat is almost dead in such. If Wind in the twisting of the Guts come away by a Fart, and stink much; according to *Forestus observ. 17.* it is bad. If the Belly be so strait, that it will not admit a Probe, it is fatal: for by consequent the Excrements must of necessity be voided by Vomiting. Therefore *Arculanus* do's not amiss in calling the death of Ileous Persons cruel and nasty. To vomit Chyle, bilious, ill-scented, particoloured and black Stuff, according to *aph. 24. f. 4.* is a bad Sign. *Galen* confesses, That to vomit Ordure, is a fatal Sign. If Stink or Worms come up at the Mouth, it is fatal. If Iliack Persons be in a cold Sweat, death is in the pot, as *Sebazius* says. A twisting of the Guts from an Inflammation, is desperate.

Every acute pain coming upon old Men, according to *Archigenes* his judgment in *Atius*, uses to cause death. *Hippocrates l. 3. de morb.* says it ends in death, if a Fever, or Looseness of the Belly supervene: And *Rosifichius* confirms it, who obser-

ved, that a Noble-man fifty years old died of it, who had a Looseness after great costiveness. When it proceeds only from Obstruction by Wind and Excrements, there is some hope of recovery. It is cured and judged by a flux of Urine, according to *Hippocrates f. 6. aph. 44.* Now follows the Cure, and first the Dietetick.

§. 13. Dietetick Cure.

THe method of Diet consists in the moderation of the six Non-natural things, which must be varied according to the variety of the cause from whence the Disease arises. If therefore it arise from an Inflammation, chuse a cold Air, let the Patient sleep towards the North. If it be not such by nature, it must be procured by Art, that is, the Floor must be strewed with Flowers of Roses, Poppy, Water-Lily. If the Disease arise from Obstruction of the hardned Excrements, chuse a moist Air, and avoid one that is dry and too hot.

As to Meat and Drink, the Patient must be sparing: for as other Diseases of the Guts admit of a thin Diet, so we reckon it proper here especially. For the main stress of the Cure depends on abstinence. In an Inflammation the Viſuals must be cooling; when the Excrements are hardned, it must be softning. Above all things avoid cold, crude, flatulent, salt and fat things, which may encrease the Inflammation. Barly-Cream, Chicken-broth, &c. are good. For the ordinary drink we recommend a Decoction of Horse-dung, that is, if the Disease proceed from hardned Excrements without Inflammation, because Excrement expels Excrement. For the

The more delicate divers Juleps, Emulsions, &c. may be made.

Sleep and Rest must here be moderated according to the variety of the cause. In an Inflammation of the Guts sleep is advisable, but in an Obstruction moderate waking must be ordered.

Motion also and Rest vary. In an Inflammation and Rupture, Rest is best; in a violent Obstruction, Motion will be more proper.

Let the *Passions of the Mind* keep mediocrity; let the Mind, as far as the pains will permit, be cheerful. It is requisite also that the Belly be kept loose, that the Urine, Hæmorrhoids and *Menses* pass freely. Hitherto the Dietetick Cure, now for the Pharmaceutick.

§. 14.

THE ancient Practitioners varied their Cure according to the variety of Causes. If the Disease proceeded from hardened Excrements, or from gross and viscid Phlegm, they prescribed divers Emollients and Laxatives both internal and external, as emollient Clysters, externally they applied divers Liniments, Unguents and Fomentation. They laid the Cawl of a Weather heated in warm-water to the Belly, and they neglected not Baths of emollient things, even of Oyl-Olive alone. They also gave inwardly Oyl of sweet Almonds alone, or mixt with Broth or with White-wine. When these things would do no good, they proceeded to purging Medicines, and those very strong ones. If they suspected the Disease came from Inflammation, they advised Blood-letting, or instead thereof emollient and cooling Clysters. Many of them mightily

value bathing in fresh Water. When pain was very violent, they used Opium. If the Disease came from a Rupture, their main end in cure was, to put up the Guts again into their place by the hand of a skilful Surgeon: but first they must be softened with some emollient Decoction or Cataplasim of emollient Herbs and Flowers, yet always promising emollient, anodyne, oily and slippery Clysters. One may have Receipts enough out of Authors, if one be minded to learn out of their Writings. Since generally the main stress of the Cure lies in removing Obstructions, they commend this following purging Decoction;

Take of Leaves of Penny-royal, Bism each half an handful, Roots of Peony, Lovage, Fenil each half an Ounce, Leaves of Senna two Drachms, Mechoacan three Drachms, Seed of Anise, Ser-mountain each one Drachm. Boyl them in Flesh-broth what is sufficient, till a Pint be left. Add to the Colature of *Syrupus de sabus* or *quinque radicibus*, what is sufficient for a grateful taste. Give it at several Doses.

§. 15.

THE Paracelsian Chymists, and their chief, *Paracelsus* c. 6. 17. 1. 1. 2. *de Tartaro*, rejects the use of Clysters in this Disease and calls them a most vile, absurd and filthy sort of Medicine, since the cause of this Disease is often but one drop of pungent Tartar, sticking in such a part of the Guts as Clysters cannot reach, though he does not deny, but they may sometimes assuage pain by their unctuousity. He also forbids Purgers, and orders, That

That the Cure be directed to that styptick and pontick thing, which causes Pain and Convulsion, that is, to correct the dissolved Tartar. To which end he advises Oyls and fat things, which obtund both the styptick thing and corrosive Poysons. He commends Oyl of Bays in Clysters; but he says, the most effectual Medicine is the Grease of a Badger, Fox, Ape, Cat, or a red Dog. Externally he commends a *Galbanum* Plaster, or one of Snakes. Inwardly also he gives (as is usual with him) Liquors of Gold and Mummy, in which he asserts the virtue and cure of contracture reside. His Disciples and Followers highly commend Spirit of Salt and of Nitre in the Iliack Passion. They wonderfully cry up Spirit of Turpentine and several other things, concerning which the Chymists themselves may be consulted.

§. 16.

Helmont commends the swallowing of Musket Bullets in drink (the more and the larger, the better) which only by their weight drive forward the hardened Excrement: but they ought to be swallowed as the Patient stands or walks. He advises several other things, which are mentioned here and there in his Writings, and shall be hereafter mentioned in the Colick.

§. 17.

Allis, for correcting the Acrimony of the Humors, which raises an Inflammation of the Guts, and enrages the Spirits, above all things commends this of *Riverius*;

Take of Salt of Wormwood one Scruple. Give it in a Spoonful of Juice of Limons. Or,

Take of prepared Coral two Drachms, Salt of Wormwood a Drachm and an half, Juice of Limons four Ounces. Let them stand in a large Glass. Add of Cinnamon Water two Ounces. The Dose, a spoonful or two twice or thrice a day.

But because the Author does nowhere professedly treat of this Disease, we are loath to be tedious, and will proceed to another.

§. 18.

Sylvius in this Disease highly commends fat Broths, both drunk in at the Mouth, and given by way of Clyster for the asswaging any Acrimony of Humors, and stopping the Irritation of the Guts, to which he prescribes the following Clyster;

Take of Root of Marsh-mallow one Ounce, Leaves of the same, Mallow, Tap-mullein each two handfuls, Seeds of Fenugreek, Line each one Ounce and an half. Boyl them in pure Water. To eight Ounces of the Colature add of Oyl of white Lillies one Ounce, fresh Butter half an Ounce. Mix them. Make a Clyster.

He also commends the applying of Fomentations, made of the same Ingredients, to the Fundament and Belly.

He praises Anodynes and Narcotics to stop that same irritation, and to temper the sharp Humors: for instance;

Take

Take of French-Barly boyled till it bursts, one Ounce and an half, sweet Almonds, white Poppy-Seeds each three Drachms. With fifteen Ounces of Barly-Water make an Emulsion. Add of *diacodium* half an Ounce, of Fenil-Water two Ounces. Mix them.

At short Intervals also let the Patient take a few Spoonfuls of the following mixture ;

Take of Water of Plantain two Ounces, Fenil one Ounce, *confectio de hyacyntho, alhermes* each half a Drachm, *Laudanum Opium* three Grains, Syrup of white Poppy one Ounce. Mix them.

Now if a Gangreen be already come, and if the upper part of the Gut be slipt into the lower, then the Author reckons the Disease for incurable. But if the lower part be slipt into the upper, then he questions not but that sometimes it may be cured by swallowing of golden or leaden Bullers, with O. l of sweet Almonds or Olives, or an Ounce or two of crude Mercury. Nor does he slight divers Externals both Liniments, Cataplasms, and other Anodynes.

§. 19.

ARTES his Followers order Blood-letting. If the stoppage proceed from Inflammation, then they administer Clysters of lenitive and asswaging things, that so they may temper the sharp Humors, and make the ways slippery. For the same end they prescribe lenitive Purgers. They advise

also crude Mercury mixt with the Yolk of an Egg, that it may not stick to the Guts. They also admit of Narcoticks, to asswage pain; for they correct the Acrimony of the Humors, and stop Convulsions of the Guts. They likewise commend divers external Emollients.

§. 20.

Our Method of Cure consists not only in restoring the Contrary and inverted Motion of the Stomach and Gut, but also in freeing the Guts from that austere and morbid product, which straitens the Guts too much, and raises Convulsions. For when this is removed the Animal Spirits flow in orderly, and perform a Motion of the Guts agreeable to nature. The thing therefore rightly considered, it is very clear, That the cruel pain which almost kills them that are sick of this Iliack Passion, and likewise the rejection of much Matter by Vomit, are wholly raised by the Spirits falling too impetuously on the Guts and Mesentery, and contracting them; and the rather, because the rest of the concomitant Symptoms in this Disease may easily be explicated by this disordered agitation of the Spirits: For instance, the extreme Parts are cold in this Disease, whence it is clearer than the Sun, That this therefore happens, because the Spirits desert their station in those Parts, and crowd themselves too much into this or the other Part. Therefore, I think, it is now sufficiently evident, That this Disease ought to be ascribed to the Animal Spirits not being rightly disposed: wherefore in the Cure I reckon, this should be our principal

principal aim, first of all to reduce the Spirits into their pristine Order. And I am abundantly satisfied, That the chief curative indication in this Disease is to fortify the Blood (which is the original of Spirits,) by doing of which the invigorated Spirits may be enabled to maintain that tenor, which is agreeable to the oeconomy of the whole Body and all its Parts. Yet we deny not, -but this disorder of Spirits by long continuance may corrupt the Humors: wherefore in the Cure we should always take care of this, That the austere and other corrupt Humors may be corrected or conquered. For which purpose, we give emollient Clysters without Salt, adding only a little Essence of Castor, with great success in this Disease. Or a Clyster may be made of a Pint of Milk with Sugar, and the White of an Egg or Mucilage of Fleabane Seed. And if much Excrement remains behind in the Guts, you may add about two Scruples of Powder of Coloquintida, or a Drachm of Trochiscs of Alhandal, tied in a Rag, as also Oyl of Dill and a little fresh Butter, or a little Dung. A Clyster also may be given only of Oyl-Olive or of sweet Almonds. But If the Matter brought up by Vomiting be bilious, then we should rather abstain from oily things. Some blow into the Guts with a pair of Bellows, that so the Excrements may the more easily come down; but in my Judgment this does more hurt than good. For if the Excrements be hard, I see not how they can come down against the Wind that is blown in, and when the blast is over the Guts contract themselves the closer, because of a greater Influx of Animal Spirits. Besides, if there be an Inflammation

on the Disease is rather encrease by closing the Pores with the Cold of the Air, than diminished: wherefore some draw the Air nearer the fire, that it may remain hot; but though the Air be hot in Bellows, yet when it is blown out, it is cooled again, because it is moved towards one Part only. After Clysters we vie to give Venice Soap from three Drachms to an Ounce and an half, by which Remedy I have cured several of this Disease.

Preparations of Castor mixt with Anodynes do wonders in this Disease, because they reduce the Animal Spirits into their pristine Order again. When the Spirits are reduced into Order, and the austerity is corrected, we may betake our selves to laxatives. For loosing a costive Belly these are commended, Manna with Oyl of sweet Almonds drawn without fire, given in warm Chicken broth and Emollients only, as Whey of Goat's-Milk, &c. Cassia also is good, and the following Draught;

Take of Cassia new drawn half an Ounce, *electuarium diaphanicon*, *diacatholicum* each two Drachms, Barly-water what is sufficient. Make a Draught.

Or a loosning Decoction may be given of Leaves of Senna, and Mechoacan, adding paregorick and carminative Herbs. But in this case Carminatives must be given with the greatest caution, because they put the Spirits into greater disorders, and sometimes by distinguishing the Coats of the Guts this way and that, they tear them, and make a mournful *Catastrophe*. If the Disease come from Excrements hardened about the blind Gut and the beginning

beginning of the colon, which stop the Passage and are dissolved into Wind, you may loosen the Belly with these or the like Emollients;

Take of a Decoction of Wormwood, Pellitory of the Wall, Mallows, roots of Marsh Mallows, Peach Kernels, Linseed Oyl, Juice of Horse-dung, &c.

Then we must proceed to stronger things. For which purpose, I experienced the following Physick-Wine, in our Maiden, whose case I mentioned: for after she had drank twice of the Wine, she voided hardened Excrements with sincere Phlegm, yet such things premised, as ought to be.

Take of Leaves of Wormwood, *cardus benedictus*, Bawm, Spleenwort, Calamint, Wall-rew half an handful, Root of Zedoary, Eryngo, Burnet each three Drachms, Angelica two Drachms, the best Rhubarb three Drachms, Seeds of Anise, Fenil, Caraway each two Drachms, Leaves of *Senna* one Ounce and an half, Rind of Orange, Tamarisk, Ath each three Drachms, the whitest crude Tartar half an Ounce. Cut them, and ty them in a rag for a measure of Wine, of which the Patient may take three Ounces.

And since we have often (as we said before) found the Guts quite empty in such as have died of this Disease, it is manifest from thence, that oftentimes the Animal Spirits only offend. And Opiates are admirably good for this end, wherefore we recommend the following Powder;

Take of Cinnabar native or of Antimony half a Scruple, Chalybeate Tartar one Scruple, *theriaca celestis* two Grains, or *laudanum opiatum* one Grain. Mix them. Make a very fine Powder, which must be several times repeated.

Or, if the Vomiting be very troublesome.

Take of Oyl of Nutmeg by expression eight Grains, Salt of Wormwood one Scruple, Saffron six Grains, *laudanum opiatum* one Grain. Mix them.

Sal volatile oleosum Sylvi is good; or volatil Spirit of Sal Ammoniack may be dropt in to fifteen Drops. And all Antispasmodicks are good. *Horslius* testifies, That he cured Iliacal People only by *elixir proprietatis Paracelsi*. *Willis* his little Portion of Salt of Wormwood with a Spoonful of Juice of Limons will be proper, but it must be often taken.

Some Physicians in an excessive Obstruction of the Belly are so bold as to give Bullers made of Lead, or of *regulus* of Antimony, or of Mercury, Sulphur and Wax, not knowing, that the lower part of the Gut is seldom or (in my Opinion) never slipped into the upper: therefore here we must take care, otherwise we shall certainly kill the Patient. Let the Patient rather drink a Decoction of Goose dung in the Spring, or an Infusion of Cows or Horse dung, which is more nervine: for austere Dungs do move.

And various Externals must also be used. It will be good to use this or some such Fomentation for the Belly.

Takes of Leaves of Mallows, Marsh-Mallows, Violets each one handful and an half, Toad-flax, Flowers of Chamomil, Melilot, Tap-mullein each half an handful, Seed of Line, Anise, Dill each three Drachms. Boyl them in a sufficient quantity of Milk or fair Water. Make a Fomentation.

Some use Brandy for a Fomentation, if it come from Humors, or, as they say, from Wind.

In our Opinion Badger's-grease is proper, with which the whole Belly, especially about the Navil, must be anointed.

Yarn also of Flax or Hemp boyled and applied, is good. Also a Decoction of Chamomil, Hemlock, Elder, Henbane, Dill and Cresses may be applied warm to the Belly.

Oyl of Henbane, Palm, Worms, Dill, Scorpions, *unguentum clysmaticum*, yea and all Paregoricks and Nervines are proper here, and sometimes they are mixt with Anodynes;

Take of *balsamus spasmodicus Myrsichti* half an Ounce, Oyl of Bays two Drachms, *unguentum dialtheæ* half an Ounce, Badger's-

grease three Drachms, Tincture of Castor one Drachm. Mix them. Make an Unguent.

A live Whelp may be laid to the Belly.

But if the Disease have its rise from a Rupture, it must be cured by divers Externals. To which end an emollient Fomentation and a Bath ought to be prescribed, that the Fibres of the Guts may be relaxed. We should therefore do our utmost to put up the fallen Gut into its place. I cured this Disease in one, which came from a Rupture, only by often using the Fomentation following;

Take of Leaves of Mallows, Toad-flax, Flowers of Chamomil, Tap-mullein, Dill, Linseed each one handful, Cummin Seed two Drachms. Boyl them in Cow's Milk, and make a Fomentation.

Or it may be made into a Cataplasm, and so applied to the Tumor.

Compare with these things, what we have written hereafter of Ruptures.

CHAP.

CHAP. VII.

Of the Colick.

§. I.

AMong the intricate Diseases, which use miserably to torment and vex Mankind, the Colick, that cruel Disease, is none of the least, which sometimes sticks fast, as if a stake were driven in, and gives poor wretches a grievous Sensation; sometimes like a Vagabond, it torments a Man variously; sometimes it leaves its own seat, and acts hostilities on the external parts, and often weakens them to death: therefore it may well be derived from *κολαζεις*, i. e. to torment. *Celsus* terms it a Disease of the larger Gut, *Cappivaccius* and others call it a pain of the Guts; it is commonly called the Colick pain and the Colick.

The Colick is commonly described to be a troublesome and sad sensation, depending on the solution of continuity, either of the Coats of the colon, or of the parts adjoyning. That which may dissolve continuity is either a sharp Acid or a saline Humor, or Wind, or tough and hardened Excrements: it may also be the Animal Spirits put in disorder either in the Brain, or in the windings of

the Mesentery. We think therefore that the Colick is Humoral and Spasmodick. We call that a Humoral Colick, which has its rise from any Humor; and then the Fibres of the Gut or Mesentery are convulse. We call the other Spasmodick, which arises not from the Humors, but when this Spasmodick disposition lies in the Spirits themselves, which are tumultuously exorbitant: for I reckon, the Colick arises from nothing else, but a violent impulse of the Spirits crowded thick upon the said Membranous parts; whence comes Convulsion and Pain, of which we shall say more when we come to treat of the Cause. We may very safely allow a distinction into Phlegmatick, Flatulent, Cold, Bilious or Hot.

The Colick differs also from the Iliack Passion in regard of pain, which is more violent in the Iliack Passion, and comes with Vomiting of Excrements. And it differs from the Stone in the Kidneys, because there appears Gravel in the Urine, and there is never any pain in the Groin, and about the Pubes; and the pain of the Loins is something violent and fixt.

§. 2.

IT is agreed upon by all the old Practitioners, that the Subject of this Disease is that lax Gut, which is called *Colon*, because it is long and winding, and the sharp Humor may stick there by reason of the numerous valves. Therefore *Celsus* calls the Colick a Disease of the larger Gut; and *Alexander* says, the large and thick Gut is affected, as it may well be in the substance of its Coats. *Willis* acknowledges the Mesentery for the part affected, in which there are many large Nerves, and their *Plexus* and distributions are very remarkable. Since therefore this part is very sensible, and very liable to an afflux of Humors of the Nervous kind, he makes it the seat of the Colick.

We think, that the cause of this Disease is often contained in the Cavity of the Guts, and among their Membranes, in which when Particles are received in the Pores, through which they cannot pass, they are shaken, reciprocated, and as it were sown in those Pores, and so by vellicating the Fibres of the Nerves, and by hurting and breaking them, they produce no small pain. If the Chyle also, either through the fault of the Stomach, or diversity of the Bile, or through some fault in the pancreatick Juice, or in any other, grow sour, by pricking and vellicating the Fibres of the Guts it may easily produce violent pain; especially in such as have it hereditarily. Which disposition, I think, consists in this, that from their infancy they have got very tender and tremulous Fibres in their Guts,

which upon the slightest motion, and by an inconvenient object, may be affected with a sense of pain.

And if there be a mucous Matter, which lines the inside of the Guts, and sometimes the crust of the Stomach, we think it ouzes out of the small Arteries, through a dyscrasie of Humors, especially of Blood: but generally the *mucus* arises from the reliques of ill digested and fermented Chyle, which reliques do ferment together with the bile and pancreatick Juice, whether they be good or corrupt: Wherefore Colick pains often arise in People fasting, and in such as have their Guts emptied by long abstinence; because in this case the peccant matter is discharged out of the mass of Blood into the Guts. And we make no question also, but the Cause of this Disease does often ly in the annexed Mesentery, and its nervous folds, the *peritoneum*, *omentum* and other Membranes and Coats of the Belly. For the *omentum* has many Fibrous, Nervous and Membranaceous Parts, which are therefore very subject to pain. Which opinion of ours we prove by what follows. For in a Cawl Rupture, through its compression, and sometimes Inflammation, I have observed pains as like the Colick as could be. And *Galen* confirms me in my opinion by the observation he made of a Souldier, that had his Cawl cut off, who was constantly troubled with Colick pains, and was Cured by *Galen* by clapping on a covering of Wool, upon which external heat, the animal Spirits caused no more Convulsions. And the example is not unlike, which I observed in the foresaid Woman

near

near *Hanover*, in a Village called *Mittelbuchen*, who, because the *omentum* hung out of the Wound of the *abdomen* a little Inflamed, one would admire, what violent pains in her Belly, like unto the Colick, she endured, but without Vomiting.

§. 3. *Diagnostick.*

A Colick in general is known by a most violent pain and torment about the region of the Guts, sometimes fixt in one place, like a piercer or stake; sometimes vagrant and unstable, now tormenting in that Part, anon in another, according to the various and violent influx of the Spirits into this or that place, and according to the various site of the peccant matter which possesses the place. Little Urine is made; for the Guts being distended by Wind require more room, whereupon the neighbouring Vessels, the Ureters and Cawl are compressed, so that little potulent matter can get to the Kidneys. There is a great vellication of the *Abdomen* and its Muscles, and a spasmodick retraction of all the Bowels, so that you can see no Belly at all. A very acute pain does attend it, and sometimes Vomiting; because while the Spirits flow into the Fibres of the Stomach, they flow also into the circular Fibres of the *Pylorus*, and by closing that, it happens, that while the Stomach in the mean time is straitned, and the contents cannot get out, the *Pylorus* now shut, they must of necessity be evacuated upwards. By the voiding abundance of yellow and green Choler it is evident that the *duodenum* and Gall-Bladder are both affected in this

Disease. Sometimes the Bladder and Ureters, as we said, are contracted, whence a total obstruction of Urine arises. And oftentimes the Guts are contracted, so that there is a continual costiveness. or if any thing be brought away either by Art or Nature, it is generally flatulent, as I have observed in the Stone Colick, which is ever attended with a violent pain in the Loyns. But it is evident that it is a mere Spasmodick Colick, generally arising from the use of Spirituous things, ill boyled Beer, and Chalk water. There is Thirst, Loathing, want of Sleep, dryness of the Tongue, a Fever, heat of Urine, bitterness of Mouth, sometimes a distension of the Belly like a drum, sometimes a Contraction, Swooning, cold Sweats, so I observed in an old Man a Priapism, at length come Convulsions and other signs of death, or it ends in a Palsy. In a Colick of long continuance, I ever suspect the Cause lies in the Mesentery or Cawl: But when the Disease ceases presently upon taking Loosning and Emollient Medicines, I am perswaded the peccant matter did lie in the large Guts. And when the pain is not very deep, but vagrant and rending, it gives an undoubted testimony, that the nervous kind is affected.

§. 4. *Cause.*

THE ancient Practitioners take the immediate and proximate Cause to be a solution of continuity in the *Colon*, arising from a sharp, gross, seculent matter, which either fills, distends or frets. Wherefore the propinquous cause that dissolves continuity, according to

Their opinion, is a gross, phlegmatick and vicious Humor got among the Coats of the Colon; or it is a wind, distending, rending, and tearing the Guts. And hither they refer all bilious fretting Humors, which often cause an Inflammation of the Guts, all Melancholick seculency, grumous Blood, Worms, Stones, hardened Excrements which may cause the same; also sharp *Sanies*, a wound in the Guts, also poysons and strong Purgatives.

§. 5.

Bracellus denies that the Colick can arise from Humors, he rather thinks, the cause is the dissolved Spirit of Salts, wherein, through the extremity of their Tastes, there is either austerity, acridity, acrimony or saltness, which may easily vellicate and corrugate the sensible membranaceous Fibres. And he says, That a Body does adhere to this Spirit of the Salts, which is coagulated in that place. He reckons therefore, That the cause of this most violent Pain is a Salt, or rather the Tarrar of the Chymists, either too much dissolved or too much coagulated, infecting, straitning and with divers pains tormenting the Guts and Part thereabout, with their styptick, pontick, sowre, aluminous and sharp Spirits. This clearly appears from *l. de tribus princ. c. 4.* where he says, That the Colick arises from Salt predominant in the Guts. The several sorts of Colicks must be taken from the differences of Salts and saline Spirits, namely, viololate, aluminous, sowre, and the like. And the degrees of the Colick must be taken both from the

divers Powers of the Spirits, and their further circulation and exaltation. But if the neighbouring Regions of the Kidneys and Bladder be full of, and covered with, such a tartareous Matter, they also are put into Paroxysms and Effervescencies, from the compression of the Spirits, that arise from the Mine and Centre of the Colick.

§. 6.

Hetmont thinks the Colick is produced, when a preternatural Acidity is in the Meat or Drink; and he testifies *de potestat. medicament. p.m. 292. n. 23.* That this sad Disease often comes from an acid Salt: for he has observed, that the Colick has come from eating of Mulberries. The more Acid therefore the peccant Humor is, the more violent are the Pains. If also the Ferment of the Gall have not turned the acidity of the Chyle into a salt volatility, then there comes a vitiated Digestion, which afterwards produces a Mucilage, wherein Acidity is included. If therefore this over tough Matter, imbued with a vitiated Ferment, the cause of Gripes, do stick to the Guts, then it will cause most exquisite pain. For the Guts, that they may drive out this slimy Stuff, compress, corrugate and draw themselves together, and when the Guts are so contracted, it so happens, that the Muscles of the abdomen also are contracted and convulse, and why may not the acidity, so much an enemy to the Guts, contract them? The cause of this Disease lies often lurking, like a thief, in the Gall: for these acid Salts, if they be not conquered by the fermental *Blas* of the Gall, become the causes of the Colick.

Colick pain; for they are the occasional cause, that the *Archeus* of the Guts is enraged, which produces a most dangerous Colick pain, and provokes the *pylorus* so much, that in its fury it ends in a Palsy and Shrinking of the Hands and Feet, by affecting the nervous kind with its furious *Blas*, and by destroying its tone.

§. 7.

Allis does, with *Carolus Piso*, rank this Disease, so great an enemy to Mankind, among Diseases of the Brain, upon this account, because he thinks, as sure as can be, that the Seat and Cause of this Disease lies in the nervous Parts. The better to confirm this Opinion, he has found out the nervous Liquor, which if it degenerate into sower Recrements, then by distending the sensible Fibres, by parting them in sunder, and by putting them into dolorifick Corrugations, it may easily produce this Disease. Which vitious Juice, he reckons, goes down from the Brain by the nervous Ducts to the Guts, and are gathered about the Parts in pain and the Mesentery, as also, that it grows turgescient of it self through plenitude. The peccant Matter, therefore being by degrees gathered about the Mesenterick plexus of the Nerves, and others, grows turgid either of it self or occasionally, or perhaps it ferments with a fixt Saline Humor, discharged out of the Blood thither, and by consequent torments the nervous Fibres, of which the Mesentery is full, with troublesome and painful corrugations. Yet he does not deny, but the animal Spirits flowing in im-

petuously, do usually raise these Spasmodick dispositions, as he proves by several reasons. Concerning which the reader may consult the Author himself.

§. 8.

Sylbius recounts and explains the Causes of several Colick pains. He thinks that a hot pain is produced by a fatty bile powerfully and viciously fermenting with an acid Pancreatick Juice. He thinks a chil pain has its original from a very acid and sharp Pancreatick Juice, fermenting with Bile that is not so fat, or less in quantity. He ascribes the cause of a piercing fixt pain to a pancreatick Juice, that is very sharp, mixt with viscid Phlegm, known by the name of vitreous Phlegm. He ascribes a dull pain to abundance of viscid Phlegm, and a distending pain to viscid Phlegm rarefied into Wind, which distends either the Guts only or the Belly also. He ascribes a cutting pain to an overacid pancreatick Juice. And so he orders the cure to be varied, according to the variety of the causes.

§. 9.

The Cartesians derive this Colick pain usually from a bilious Humor joyned with a fretting Salt, which fretting Salt is contained not only in the Cavity of the Guts, but between their Membranes; therefore its Particles, when they are received into the Pores, through which they cannot pass, rub as it were one against another in these Pores, that is, when these pointed, rigid, pricking, fretting

and cutting Particles are left in the Coats of the Guts, and then being violently driven, with their Points they produce this most exquisite pain, by vellicating, fretting and corrugating the Fibres. And by consent the rest of the Parts, namely, the Stomach and Bladder may be convulse, whence come Vomiting, difficulty of Urine, &c. And sometimes the Pores of the Guts may be obstructed by viscid and gross Particles, and so a Colick may arise. Sometimes it comes from distension of the Guts. But if one should touch and separate such a Membrane with a Pin or any such Instrument, what violent pain would it not put a Man to?

§. 10.

WE, as we said before, do think that the Colick is either humoral or spasmodick. We call that *humoral*, when some strange Humor is often mixt with Wind, which offends the Animal Spirits, and so is the cause of all the mischief. These Humors are bilious and sharp, namely saline and scorbutick, which being joyned with a fretting Salt, cause pains joyned with convulsive Motions, by pricking, fretting and cutting, the *plexus* and Nerves, not only of the Guts, but of the Mesentery, Cawl and other Parts. Yet generally, we are perswaded, this Disease arises from an Acid, whether it be an acid slime that sticks pertinaciously to the folds of the Stomach, or hardened Excrement, or Wind rising from ill Fermentation, which shows that there is an acid, austere viscosity, which fermenting turns into a flammable Gas. Worms and the Stone also by vellication may cause the

same Disease. For this excessive and vitious, yea corrosive acid rages seldom in the Coats of the Guts, oftner in the Cawl, but most frequently in the *plexus* and Nerves of the Mesentery. The Bile also is often so changed and corrupted by an Acid, that it turns quite austere. Wherefore they that are troubled with this Disease, are always costive; and the repeated painful Contractions of the said Parts are caused by a sharp and vitious Acid. And because we see Wind is raised, when ever volatil oyle Salts fall upon Phlegm, we reckon, that Portions of volatil Bile meeting with thick Phlegm, do dissolve it into subtil Wind, which distending the Cells of the Colon retard the Excrement, and hinder the due Influx of the sensitive Soul, whence proceeds costiveness.

These Colick pains often arise in a scorbutick Disposition, which besides the aforesaid causes, we may derive from lixivial serum, which by distending and contracting the membranaceous, sensible Parts may contribute something. Oftentimes this vitious Matter returns upon the Nerves of the Loins, which is the reason, why the Patient feels violent pain about his Loins. And this morbid Seminary being received back again, is carried to the very spinal Marrow, and communicates the like taint to it, then the spinal Marrow, being almost spoiled by it, communicates this contagion to the Nerves of the Limbs, that arise from thence, by whose fixing, coagulating and stupifying virtue the concatenation & commerce of the Animal Spirits (the Authors of all Motion) is interrupted, and thence proceeds impotency of Motion.

We

We call that a *spasmodick Colick*, in which the Animal Spirits are so affected by some subtil Matter, that they intermit their ordinary Motion, and flow tumultuously to the Mesentery, and other sensible membranaceous Parts, and there by vellicating the Fibres of the Nerves, and by hurting and breaking them, they produce no small pain. Or it may so be, that the most subtil Particles are so received in the Pores of the Guts and Mesentery, and of other Parts, that they cause a kind of Inflammation, whence proceed these violent Pains. And whereas the Patient finds an intolerable pain about the Pit of his Stomach, with cruel Vomiting of Matter as green as Grass, the reason of that is nothing but a thick crowding of the Spirits into the said Parts, especially into the circular Fibres of the *Pylorus*, whence proceeds a Pain and Contraction of the Stomach, and a total subversion of other Parts. For we must not always, because we see bilious green Stuff vomited or voided by Stool, presently conclude and say, That the Disease resides in the Humors, or that this cruel Colick pain proceeds from the Acrimony of any Humor, gnawing and pricking the Part wherein it resides, and so take it for the cause of the Disease, and therefore think utterly to extirpate it by purgative means. For it is clearer than the Sun at Noon-day, that the indisposition, under which People at Sea do labor, does arise from the unusual agitation of the Animal Spirits upon the troubled Sea; and yet we see, a Mias of grass-green Stuff comes from the Stomachs of the most healthy Persons, when they are got a good way to Sea, who

but an hour before had no porraceous Bile in them; as I have experienced in my self at Sea. Yea in Fits of an Epilepsy do we not often see Evacuations, where nevertheless there is no bad Humor in the Guts? Also in a sickly breeding of Teeth, with strange Excrements come away, only through the disorder of the Spirits, which, I know not how, destroys and perverts the Ferment of those Parts, or by the strength of Convulsions it strains some Liquor or other of a strange nature, which may give the Humors that colour, and in my Judgment the various commixture of Bile with the pancreatick Juice may cause this greenness. For if the pancreatick Juice be mixt with a saline volatil oyley Bile, this porraceous greenness may arise from their mixture; concerning which colour, see *Ettmullerus* his *Valetudinar. infantil.* §. 21. de torminibus & variis alvi excretis infantum, where you will find this subject elaborately handled. The thing therefore rightly considered, it is apparent enough, That this violent pain, and the vomiting of green Matter, which almost kills People in this Disease is most certainly produced by the Animal Spirits, flowing too impetuously into that Part of the *abdomen*, and contracting these same membranous and fibrous Parts. For the Guts with the Parts annexed are often so contracted and corrugated, that the Muscles of the Belly are contracted with them, and the Patient looks as if he had no Belly at all, as I have observed in several; who have had their Belly so contracted, that I could feel nothing but Skin and Bones. And I am perswaded that the very Spirits may be so dis-

posed

posed by the Air and other very subtil Particles that one may fall into this Disease, without any peccant matter lying in the *Abdomen*. But I am weary of dwelling any longer on things that are so well known.

These we take to be the proximate and continent causes; the precatarrick and remote causes of this Disease may be divers, a Complexion phlegmarick, cholerick, or melancholick, and an innate disposition to the Colick contracted from ones Mothers womb. Also the fix non-natural things, of which we shall speak in the Diet.

S. I I.

THe Causes being hitherto enumerated, on which as on prolific Parents this spasmodick Disease depends, we must direct our thoughts to the Prognostick. For nothing can gain a Physician greater reputation among his Patients, than to give sure prelates of future contingences. The Colick pain has not always the same issue. For sometimes it is easie to be cured, sometimes hard, yea dangerous, and now and then mortal, not so much on its own account, as of Diseases that are either conjunct or subsequent. This spasmodick pain often ends in a Palsy, or Epilepsy, or Gout, or some sleepy Disease; it often degenerates into the Iliack Passion. Because the Blood, being hindered in its motion by the corrugation of the fibres, and gathered more than it ought in the interstices of the vessels, breeds an inflammation, whence proceed a *Miserere mei* and a Gangrene Colick, which comes from an inflammation of the Guts, or from an Excoriation, Wound

or Ulcer in them, or from rough and salt Phlegm, or from too corrosive an Acid, or one that is epideemical and malignant, or which is endemical, if it be not always mortal, it is at least tedious and dangerous, and that is usually mortal, which is followed by an Iliack passion. A Colick pain is not dangerous, when it comes from an evident solitary cause. But that which is habitual is very dangerous, for it does not easily give way to Remedies, and sometimes it lasts some months, yea sometimes a year, and it turns either to a Palsy or to some other Disease; and it often returns, of which there are so many examples, that I need not to instance in any, yet there is hope of cure, when the Patient is young and in his full strength. And I promise some famous Medicines, which will quickly cure it, provided that directions be followed. For when you are unwilling to die, it is a miserable thing not to do all you can to live. The Disease will be at an end, if you do but quiet the violence and disorder of the Spirits, and destroy their irregular motion. Yet it often is a most grievous Disease, and requires good strength to undergo it, therefore when it takes Women with Child or Lying-in, old people, and such as are wasted with Diseases, it is usually dangerous. And it is a most certain sign of death, when the hiccough, want of sleep, *delirium*, cold Sweats, and coldness of the extreme parts supervene, through the violence of the Disease: for then the Patient will scarce escape.

S. I 2.

§. 12. *Dietetick Cure.*

ALl our care hitherto has been bestowed upon enquiry into the Nature of this Disease, it remains therefore that we bestow a little on the Cure of it, which as well in this as in other Diseases consists in a good Diet and Medicines. Chuse therefore as pure and thin an Air as you can, forbear all that is thick, cold, over hot, cloudy, moist, or full of Vapors.

Let the Meat be of good Juice and easie Digestion. Forbear all windy Meats, such as are all Pulse, Fish, &c. Forbear likewise all sharp, salt and phlegmatick Meats. I was lately troubled with it, upon eating Carp, that was not well boyled. All Acids are very hurtful in this Case, and so are all horary Fruits, especially raw. All sweet meats hurt the Patient, because all sweet things contain an acid corrosive in them, as appears from *Piso's* observation, who writes, how that the juice of a Sugar-cane turns sowre in a short time, and adds, That a Spirit is distilled off Sugar, which the *Portuguese* call *Aquadenzi*, which cools with the greatest Stypticity, contracts the Tongue, gripes the Bowels, corrodes Metals, and is of a nitrous and bitter taste. For Sugar dissolves Antimony it self, if it be mixt with it three days and distilled. Let their drink be a decoction of *China* root with Raisins; or a small wine, which has no Acidity in it. Forbear all tartareous, Franconian, sulphurated and palled Wine. *Grembs* writes, That all Wines are nought in this Case. But I cannot see how any Wine, that has a volatil acid in it, can do hurt. There-

fore I shall commend *Rhenish* and *Moselle* Wine, *Neccarine*, *Hirshstein* and *Mitchelback* Wine near *Hanover*, which are excellent Wines in the Colick, Gout, and Stone. Beer not well boyled or wrought, too new and thick, is naught. Drink made of Fruit, Perry and Cider, such as Country People make, is bad. Let the Patient take but sparingly of spirituous things, because they much disorder the Spirits.

Let the Patient observe a mediocrity in Motion and Rest: for excess in either does harm.

Let him sleep longer than he wakes.

Let him never give way to the passions of his mind, especially let him forbear Anger, Grief and Sadness; all which contribute, though in a different manner, to the producing of a Colick.

The excreta and retenta must be duely kept to nature's laws; the Belly especially must be kept loose: but forbear all violent Vomitors and Purgers; for they do more hurt than good. Hither also we refer pretornatural Causes, precedent Diseases, inasmuch as they translate the Matter to the Guts, deprave Concoction and Fermentation. Intemperature of the Brain, Blood, and *Lympha* are very effectual in producing a Colick.

§. 13. *Pharmaceutick Cure.*

THE Ancients insist on a different method of Cure, according to the difference of the Causes whence it is produced. The cure therefore of a Colick which arises from the proper Diseases of the Guts,

Guts, to wit, an Inflammation, Excoriation, Wound or Ulcer consists in the cure of that thing; because when the Cause is removed, generally the effect is removed also. A Colick that comes from Worms, or Stones, or rough and sharp Bodies swallowed down, as Pins, is cured by Evacuation of these things. One that comes from bilious Humors is cured, when they are tempered and carried off; and so, if a rough, viscid and sharp Phlegm have produced it, this must be cut, attenuated, corrected, and then carried off by Phlegmagogues. To which end they commend inciding Decoctions, especially of Woods, Barks and carminative Seeds. Then what is fit to be carried off, they purge with Phlegmagogues, of medicated Wines, Potions, Pills of Gums, adding Carminatives and Narcoticks. But if the Disease proceed from Melancholy, they give Melanogogues: And that Humor must be corrected with watry things, as Whey; and with earthy things, as bole Armenick, the Jaw of a Perch, &c. The Ancients cry up Wolf's Gut, as a Specifick in this Disease. If bile abound, they give Cholagogues.

The wind Colick requires, 1. The amendment of both the material and efficient Cause. 2. The Discussion of wind raised by them. 3. The Mitigation of the pain. 4. The carrying off the material cause. To which ends, they commend the following Clyster;

Take of the emollient and carminative Decoction one Pound, *diacatholicon* one Ounce, common Salt one Drachm, Oyl of Dill six Drachms, Aniseeds de-

stilled ten Drops. Mix them Make a Clyster.

An emollient and carminative Decoction may be made of these or some such things;

Take of Root of Smallage Lovage, each one Ounce, Leaves of Marsh-mallow, Groundsel, each an handful, Mercury, and Pellitory of the Wall each half an handful, Seeds of Anise, Fennil, Caraway, Lovage each three Drachms. Boyl them in Spring water. Keep the Colature for use.

When the Body is purged, they give things to allwage pain as Oyl of Sweet Almonds in Malmsey or Hippocras Wine, Treacle, Mithridate with Castor, and other Opitates, as *Philonium Romanum*, *Requies Nicolai*, and a thousand other things. Among externals they commend Yarn boyled in Ley, and applied hot to the Belly; Bags of Millet, Oats and Salt fried, and of other carminative and emollient Herbs. They also apply divers Unguents, Liniments, and Cataplasms of Linseed Oyl, white Lilies, Chamomil, &c.

§. 14.

THE Paracelsus say, This Disease is saline, and that it must be cured with Salts. Therefore they will have the dissolved Tartar coagulated, precipitated, and afterwards carried off. The salt also, which is the internal principle of man's body, degenerating from its nature, must be corrected and strengthened by the elementary Salts. For expelling the salt they com-

commend Elecampane; they do not approve of violent things, nor Purges of Coloquintida, and such things; for the salt, as *Paracelsus* says, will not bear violence. And because the spirits are in this case thirsty, and out of order, spirit of Nitre, Tartar, common Salt, Vitriol, Oyl of Nutmeg, Cloves, Cummin, Amber, Sulphur, & Turpentine will be proper, Civet also may be applied to the Stomach with Oyl. The extract of Orange pill in good wine is an excellent Medicine; and so is extract of *casamus aromaticus* with Cinnamon water, burnt Harts-horn, and the bone found in Wolf's dung is reckoned as a great secret by *Paracelsus* in this Disease. He commends Cataplasms of the dung externally. He says, that sweet, fat, and oily things are good in drink. But above all things he extols his *landanum opiatum*.

§. 15.

HElmont has often cured a Colick with true *landanum* without opium. He also orders the belly to be fomented with some warm Ointment: and he highly magnifies Aniseed. His disciple *Grembs* recovered one of the Colick by giving him an emollient Clyster with three drachms of *Philonium Romanum*, and constantly giving him *landanum opiatum*, and Chicken broth, with China root and daucus seed boyled in it. Then he concluded the cure with pills of Aloes.

§. 16.

Ultis will have the cure of the Colick to be be-

gun with a Clyster, which at first must be lenient and emollient, whereby, as by an inward Fomentation, the Corrugation of the Fibres is stop'd, and the raging Spirits are pacified. To which ends he orders one to be given of warm Milk and Sugar; or emollient Decoctions of Mallow, Marsh-mallow, Elder, and Oyl of sweet Almonds; also a Decoction of a Sheep's head, or Calves feet; or only Oyl Olive, or linseed Oyl. If these Clysters do not loosen the belly sufficiently, he would have men use carminative or bitter Decoctions, in which some *electuarium diacatholicum*, & *baccis lauri*, or *biera pira*, is dissolved. Or;

Take of Infusion of *crocus metallorum*, or a healthy body's urine, one pound, Venice Turpentine dissolved in it one ounce and an half, brown Sugar half an ounce. Mix them. Make a Clyster.

For the balsamick particles of the Turpentine, comfort the Bowels, and assuage the Fibres. But if the Gripes will not give way to these gentle things, he thinks, we should have recourse to hydropicks, as to the last refuge. For which purpose he commends his *landanum liquidum tartarizatum* from sixteen to twenty drops, given at the hour of sleep in a spoonful of Chamomil; or some other carminative water. When these things are given, he gives either a Vomit, or a gentle Purge, of *Tartarum emeticum*, or white Salt of Vitriol; or of Resin of Jalap, *pilula Rhodii* and *Mercurius dulcis*, to extirpate the matter of the Colick. And at last, when we cannot attain our end by these means; he advises

advies salivation, as the only remedy. If the Colick be of any continuance, and contumacious, besides the foresaid things he advises divers Diureticks and Spaw-waters. Among externals he commends Epithems to the belly of leaves of Mallow, Mercury, Pellitory of the wall each four handfuls, flowers of Elder, Chamomil, Melilot, each three handfuls, a Sheeps head. Boyl them in a sufficient quantity of Spring Water. The Colature may be used for a Fomentation, with Flanel dipt into it warm, and wrung out, and so applied, repeating it, when the pain is violent. He also says. That a Lambs Cawl, or Lungs, and other inwards of Brutes, taken out and applied warm, do wonderfully ease pains of the Colick: But in some constitutions he observed, that Epithems of hot things, or applied hot, rather encreased than abated their pain. And in such cases he rather commends Fomentations of solutions of nitre, as sal Ammoniack, and sometimes, with *Septalius*, one made of pure cold Water.

§. 17.

Sylvius cures a hot pain, arising from fat bile, by Acids and Warry things. Here is one of his Receipts;

Take of water of Cichory, Sorrel each two ounces, Syrup of white Poppy one ounce, Spirit of Nitre eight Drops. Make a mixture, to be taken by Spoonfuls.

And in this case the following Emulsion will be proper;

Take of the four greater cold seeds each one Drachm, sweet Almonds three Drachms, white Poppy seed one Drachm. With Chamomil and Mallow-water make an Emulsion.

Then it will be necessary, that the bile so corrected, be carried off, to which purpose he prescribes the following Electuary;

Take of Pulp of Tamarinds two ounces, conserve of Damask Roses ten Drachms, Electuary of juice of Roses one Drachm, salt of *tartarum vitriolatum* one Drachm. Mix them. Make an Electuary. Let the Patient take the quantity of a Nutmeg.

A cold pain, which is contrary to the other, must be cured by aromatick Spirit of wine, impregnated with a volatil oily salt: for instance;

Take of water of Fenil, Treacle simple each half an ounce, salt of Wormwood one Scruple; Crab-eyes half a Scruple, Syrup, of *Cardus Benedictus* half an ounce. Mix them. To which sometimes one grain of *laudanum opiatum* may be added.

He endeavors to cure a piercing fixt pain by correcting and tempering the acid Acrimony of the Pancreatick juice, and the viscosity of the phlegm, joyned with it; which is done by gum Ammoniack, *galbanum*, *sagapenum*, mastich, &c. He writes, that Oyl of Hartshorn is of great use in correcting vitreous Phlegm. And he commends Phlegmagogue pills, described, *prax. l. 1. c. 14. §. 5.*

In

In Pain with a sense of Contortion, caused by the Austerity of the pancreatick Juice, he magnifies Spirit of Sal Ammoniack and Tincture of Castor. For which purpose he commends the following Mixture, to be given by Spoonfuls ;

Take of water of Penny-royal two ounces, Fenil one ounce, Tincture of Castor three Drachms, *laudanum opiatum* two Grains, Syrup of Mint six Drachms, Mix them.

A distending pain, caused by wind, he removes by divers Carminatives, Spirit of Nitre, &c. And volatil Salts are good, which both correct a viscid Phlegm and sharp Bile. Among externals he prefers *Unguentum Martiatum* and *althææ compositum* above all others, adding some oyl of Chamomil, white Lilies, Bays, &c. And a carminative Plaster, applied, to the Belly will be good.

§. 18.

They that build on the Cartesian fundamentals, do all they can, to blunt the sharp, pungent and cutting particles, and to break the violence of the sharp Humour, and to assuage the nervous Fibres, that are hurt thereby ; which according to them, may be obtained by divers anodyne, paregorick things : for they often give Opiates, that so the Patient may have ease, and the Physician gain time, to carry off that foreign salt. Then they give a gentle Purge of extract of Rhubarb one scruple or five and twenty Grains. Then they give a

Sweat, which must also be a little Anodyne ;

Take of *Bezoarticum minerale* twelve Grains, oriental Saffron six Grains, Camphore three Grains, *laudanum opiatum*, one Grain, water of *cardus benedictus*, Mint, Syrup of red Poppy each what is sufficient. Mix them. Make a Draught.

They also advise Clysters, and Externals, which assuage the hurt Fibres, and stay the impetuosity of the animal Spirits ; all which you may find in the following Section.

§. 19.

UU^E do think in a humoral Colick, that the cure must be directed to the peccant Humor. If therefore, we suspect, that this cruel Pain comes from the Acrimony of hot, sulphureous or bilious Humors, which we may know by a kind of burning in the parts affected, thirst, vomiting, of bilious Matter, and other Signs, then we commend the following Mixture ;

Take of water of Wood-forrel, Plantain, Cichory each an Ounce, *laudanum opiatum* one Grain, spirit of Nitre twelve Drops, Syrup of Orange pill half an Ounce. Mix them.

Emulsions, but especially Opiates, are very good. And now and then a Clyster both laxative and anodyne may be given and gentle Cholagogues ; but we especially approve of a Decoction of Tamarinds, by which alone we cured a *Switzer*, who studied Divinity

vinity at *Hanover*, beyond the expectation of another Physician, who had given him over for dead. To which purpose a gentle loosening Decoction may be often given in a small Dose: to wit;

Take of leaves of Bawm, Pennyroyal, Spleenwort each one Handful, root of Lovage, Fenil, *Asparagus* each half an ounce, leaves of Senna six Drachms, Mechoaca three Drachms, seed of Fenil, Sermountain each one Drachm. Boyl them in flesh Broth to a Pint. Add of *Syrupus de duabus radicibus*, what is sufficient. Mix them.

In this case Fomentations and Cataplasms of emollient and antiscorbutick things may be outwardly applied. I often assuage Pain and evacuate the peccant Matter both at once, by giving Opiates and Chôlagogues together. When the pain is gone, I order the following, or some such like pills;

Take of *Massa pilularum tartarearum* half a Drachm, *diagridium* twelve Grains, Oyl of Amber one Drop, with *tinctura proprietatis* or *essentia anodyna* make pills for two Doses.

For nice persons I use the following Potion;

Take of Calabrian Manna two Ounces, Dissolve them in a sufficient quantity of Mint and Fenil water; add Frog-spawn water half a Drachm. Mix them.

But if the Disease proceed from cold and sharp Humors, then the following Clyster may be given;

Take of the emollient herbs, *carduus benedictus* each an Handful, root of Elecampane, *acorus*, *Galangal* each two Drachms. Boyl them in sweet-Milk, adding of Barly one Ounce, one yolk of an Egg, oyl of Fenil, half a Scruple, or Oyl of Rew or Juniper. Mix them, make a Clyster.

I ever observed admirable success in adding an Ounce or two of *aqua benedicta Rulandi* to Clysters, and from such antimonial Clysters, as we meet with in *Riverius*, *Sennertus* and others. Milk also boyled with Garlick may be supped. Milk likewise boyled with a good quantity of Elderflowers, drunk especially in the morning, if the patient can keep himself in bed and sweat, will do good. A Clyster also is good, made of milk one pint, *St. Thomas* Sugar half an ounce, butter one ounce and an half, *Album Gracum* two Drachms; or some *unguentum Clysmaticum*.

In this case a Drachm of fresh *sperma ceti*, not rancid, may be given in generous wine with good success. So Oyl of sweet Almonds with a little salt, or one grain of *laudanum opiatum*, or three Grains of Camphore, is good.

If an acid, or (to speak like the vulgar) a melancholick Humor, cause this pain, it must be corrected. For this purpose we commend all manner of Alkalies which are excellent good mixt with Opiates. I also prescribe a Powder of Crab's-eyes, Pearl, *sperma ceti*, Bezoar, and *theriaca caelestis*, which is excellent in this case. All testaceous Powders, Whey, Asses Milk, *antimonium diaphoreticum*,

Castor (as it is endued with a volatil oyle Salt) and finally all volatil oyle Sales are proper to imbibe and precipitate the exorbitant Acid. And divers Externals, Liniments, Cataplasms, and other carminative things are good. When the pain is abated, *Melanagogues* mixt with Carminatives may be given. If there be any austere Humor, and the body be bound, a Clyster may be given with a little Essence of Castor in it. In a scorburick Disposition Antiscorburicks must always be added; and afterwards the peccant Matter must be evacuated by Hydragogues.

In the wind Colick *essentia carminativa Wedelii* and our carminative Spirit, which follows, will be good.

Take of Orange pill one Ounce and an half, root of Elecampane, *acorus*, Master-wort, Galangal, Aniseed, Bay-berries, each half an Ounce, Castor one Drachm. Let them be infused in spirit of Juniper Berries and generous Wine, then destill them, and keep it for Use.

This is also an incomparable Draught in the Colick,

Take of generous Wine one Ounce and an half, *aqua vite Matthioli* half an Ounce, Oyl of sweet Almonds one Ounce, *laudanum opiatum* two Grains, Camphore three Grains, Salt of *carduus benedictus* one Scruple, Saffron six Grains, *spiritus salis Ammoniaci* or *salis dulcis* half a Scruple, Syrup of Poppy two Drachms. Mix them and shake them well together, for one Draught or two.

If Worms, or Stones, or hardened Excrements be the Cause, we must always take care to get them out of the Body. In a spasmodick Colick, we must endeavor first to correct the morbidick matter, lodged generally in the nervous Folds of the Mesentery, to remove the Solution of Continuity, and to slacken the over quick, active, and spasmodick irregular Motion of the Spirits, into the parts of the *Abdomen* and to reduce the spirits into good order again. And Clysters have a singular virtue to pacify the Spirits; and therefore are very convenient in all convulsive Motions: for what Fomentations do, applied outwardly to the Belly, that they do inwardly, when being poured into the Gut, they enter their Pores, and some dissolving particles expire, which temper and attenuate the morbidick Matter, and rid the fibres of it. These Clysters may be made of divers emollient, anodyne and nerve vine herbs, and a Drachm or two of Essence of Castor may be added, to wit, of Marsh-mallow, Liquorice, white Lilies, Leaves of Mallow, Marsh-mallow, Pellitory of the Wall, flowers of Chamomil, Elder, Melilot, Seeds of Caraway, Bay-berries, Juniper berries, &c. We commend also antimonial Clysters, of which before. As for Purgatives, we disapprove of them because they exasperate pain and hasten death, as that Famous Physician *Wesferm* in *Ephemerid. Natura Curios.* has observed, as well as I. But Medicines imbued with an anodyne Sulphur, and which have gentle pargorick Particles in them, do stop the anomalous influx of the Spirits into the Membranaceous parts of the lower Belly; and Opiates ex-

cel all others: for Tincture of opium extracted with Alcohol of Urine, and transcolated several times, relieves to a miracle in desperate cases; and so does *laudanum opiatum*, made by Fermentation *Langelotti's* way. We have with good success used *essentia carminativa* mixt with *essentia anodyna*, *Wedelius* his way. I must needs commend this paregorick tincture of mine, which mixt with my anodyne tincture never failed me;

Take of Spirit of Rosemary half an Ounce, Worms two Drachms, Harts-horn, volatil Salt of Amber, Vipers each one Scruple. Digest them together. The Dose twenty Drops twice a day, and let the Body always be disposed to Sweat.

And anodyne Essence will be good of three parts *laudanum opiatum*, and one of Balsam of Sulphur, sharpened with tartarified Spirit of Wine, and first prepared with *spiritus nitri dulcis*. There is great virtue also in our *theriaca Cælestis*, if you give a few grains of it.

Among mineral Anodynes, Cinnabarines excel, being thorowly impregnated with fixt Sulphur of Antimony, especially Cinnabar fixt with Oyl of Vitriol, which is the true *Panacea Anwaldina*. Some love it prepared without an Acid. The Powder also gathered from the dross of *regulus* of Antimony at the last precipitation with Spirit of Vitriol, is famous. Also the anodyne Sulphur of Vitriol, made our way, eases Colick pains like a charm. We may reckon Treacle water among anodynes, which may be given either by it self, or mixt with other things.

To refresh the Spirits and comfort the Nerves, we advise Medicines, that are strong, of a gentle, sulphureous, volatil Salt, which bring the Spirits into order again. All Balsamicks are good in this case, especially our nervine Balsam, which by constant using does wonders. Essence of Castor, Amber and other spirituous cephalick Elixirs, are of great efficacy in weakness of Spirits. Cordials also must be given frequently: for instance; Barly, Cinnamon water, Pearl, of the Velvet of Stags heads, Orange flowers, *Danica rubra*, *spiritus confortativus cardamomifatus*, *confectio alhermes*, *pulvis diachermes* and *cordialis pretiosus*, which may be made up into Receipts by a prudent Physician. Acids also are good, which have a Sulphureous volatil principle in them, inasmuch as they check the sharp *effluvia* of the Spirits, and stop their hasty Motion. But among all Acid Spirits, the best is that most volatil Spirit of Vitriol, which is made of Vitriol of *Mars* impregnated with Spirit of Sal Ammoniack, destilled by a glass retort in an open Fire. And Spirit of Ivory deserves praise.

Antiscorbuticks also and Diureticks must not be neglected, which put the morbidick Matter into fusion, and carry it along with them to the urinary Passages, such as, *aqua antiscorbutica* either hot or cold, as there shall be occasion, *specifica Hertodi ex stercore columbino*, Spirit of Sal Ammoniack simple and compound, *mixture de tribus*, Spirit of Turpentine, *Sal volatile oleosum Sylvii* or *nestrum*, Powder of Orange Pill, and other Balsamicks, which help Solution of Continuity, and correct a vitious Acid. But Tincture

Sture of Antimony exceeds all the rest, about thirty drops of it given frequently in *aqua lumbricorum magistra's*. The virtue of this following Balsam is excellent;

Take of Balsam of Peru, mix it with Spirit of Sal Ammoniack and Ivory, and digest it gently.

Liquor cornu cervi succinatus, and all Cinnabarides, and cephalick Powder made of them, especially mixt with Opiares, are of great efficacy. All Antiepilepticks and Castorines seem to be of singular Virtue in spasmodick Fits of the Spirits. Here also *aurum fulminans*, taken from one Grain to five, will do good. And it will not be difficult for a prudent Physician to satisfy several indications by these Medicines. *Spermaceti* does not only temper Acids, but allwages the membranous and sensible Fibres, and so eases Pain. But it must be taken with Oyl of sweet Almonds, Sack, or in warm Broth, this Potion, *Crato*, who was Physician to three Emperors, reckoned among his secret Medicines. When these things will do no good, they go to a Milk or Whey Diet. Or we send our Patients, as to their last refuge, to the Waters, such as *Embsden* in Germany and *Bouxbon* in France; by drinking whereof *Citeus* recovered several, who were grown paralytick by an epidemical Colick: So great is Nature's bounty towards us, and so admirable is the art of Physick! We do not exclude hot Baths, which have cured many. If we have them not natural, we may have them artificial. A Bath of fresh Water, Milk or Oyl Olive is good. This

following is excellent;

Take of root of Marsh mallow, white Lily, Flowers of Chamomil, Melilot, Elder, leaves of Mallow, Pellitory of the wall, Violets, Buck-beap, Brook-lime each, what you please. Mix them for a Bath.

Externally a Bag of wheaten Malt ground with Cummin, common Salt and Chamomil flowers, will be good; such as this following;

Take of ground Malt, Cummin each two handfuls, flowers of Chamomil, Mullein, Melilot each half an Handful, seeds of Cummin, berries of Juniper each half an Ounce, Camphore (if the patient can endure the smell) one Drachm Mix them for bags; and apply them hot.

Wooden trenchers made very hot and wrapt in a Napkin, impregnated with Oily things, and so applied to the Belly, do often give ease. But we must have a care how we meddle with Topicks; for they often do the patient mischief; because the saline Recrements, being disturbed by them, produce a more violent Heat, yea an Inflammation of the Guts and Mesentery, which at length ends in an Abscess; as *Wesfer* found it, in a Body which he opened.

We highly value nerveine Topicks mixt with Anodynes, which have also a precipiating Virtue in them, such as *aqua arthritica*, Spirit of Sal Ammoniack, Worms, *Liquor nervinus*, Oyl of Soap, or Frogs. Or;

G 2 2

Take

Take of Oyntment of Marsh-mallow, *unguentum anodynum* each half an Ounce, Oyl of Worms two Drachms. Mix them for use.

Also we order *balsamus spasmodicus Mynsichti* to be applied to the back, with good Success. I may likewise recommend Aromatick Oyls, *spiritus convulsivus*, and other Carminatives, the *spina dorsi* may be anointed with *unguentum resumptivum* mixt with Bevers grease, &c. The following Liniment applied to the Belly eases the most violent Pain, to a miracle.

Take of Spirit of Ants, Worms, Lily conval, *spiritus arthriticus*, *spasmodicus* each one Ounce, volatile Salt of Hart's-horn one Drachm, Tincture of Castor three Drachms. Mix them.

The Belly may also be anoynted with Oyl of Sow-bread. Or ;

Take of Oyl of Chamomil, Almonds, Dill each one Drachm, destilled Oyl of Bay-berries, Caraway, Cummin each half a Scruple, Essence of Saffron half a Drachm. Mix them.

Oyl of Myrrh may be dropt into the Navil. A Cataplasim may be made of Pellitory of the wall, Cresset, and boyled Onyons, with Oyl of Scorpions.

Out of the Fit, for Prevention sake, the morbidick cause must be removed by Purgling, Vomiting and Bleeding. Afterwards opening Martial Medicines, and others to temper the great Heat must be given, such as the testaceous ones before mentioned, which imbibe the Acrimony, and Acidity of the Humors, Ivory, Crabs-eyes, Mother of Pearl, Harts-horn, &c. Whey with Tamarinds infused in it, or mixt with Antiscorbutick juices, may be drunk for some time.

C H A P. VII.

Of the Jaundice.

§. 1.

MOST names of Diseases given by the *Græcians*, are retained by the *Latins*. So the word *Icterus* came from the Greek *ἰκτερός*, from the yellow Feathers in the Wing of a Bird so called, which in *Latine* they call *Galbula*, in *English* a *wood-wail*, which is as probable, as *Amatus Lusitanus* his Derivation, *cent. 1. curat. 83 in schol.* that it should be called *Icterus* from *ἰκτερός* a Kite, because *Mens Eyes* in a *Jaundice* look yellow with Bile, like Kites Eyes. *Celsus*, *Apulejus* and *Scribonius* call it *aurigo* and *auriginosa* suffused from the colour of Gold undoubtedly, which Bile, when it has over-spread the whole Body, resembles; and so they call it *morbus regius* from Gold, which is the King of Metals. Other call it *argutus* or *arcutus*, from the various colours of the *Rain-bow*. In *English* it is called the *Jaundice*. It may be described to be, a *Cachexy* tinging the solid and fluid parts with a preternatural Colour, yellow or black, arising from the Acrimony of the Bile.

§. 2. *A Case.*

A Young man, twenty five years of age, of a sanguine and colerick constitution, at other times troubled with *Hypochondriack* and *Colick Pains*, when in Summer time after meat he had exercised himself overmuch, and likewise all the Summer long he delighted in sugared things, and very Aromatick Wine, after he had passed some Nights without Sleep, he Found a dulness of Body, and an itching in his Skin, especially in his Back, his Stools were white, and somewhat slimy, he made a troubled, thick and Saffron coloured Urine, so that it tinged cloth and paper, the whire of his Eyes, his Temples, and all his Skin turn'd yellow, he had a bitterness upon his Tongue, was Thirsty, his Sleep was disturbed; and if he stirred much, he had a difficulty in Breathing.

§. 3. *Part affected.*

When we say, the solid and fluid parts of the Body are its Subject, we do not exclude

The Spirits, those subtil Bodies (too fall under the sense of Seeing) subtil, to from the Cause of the Subject. — I name only those Parts, that are apt to take the depraved Colour, which we see are both solid and fluid. Among the external parts we may accuse the whole Skin for the part affected, whose Cuticle the thinner and more pellucid it is, as in white skinned persons, of a clearer yellow the Jaundice will appear; and the thicker, the darker. The *adnata tunica*, which makes up the white of the Eye, may also be here affected, and so may the Nails, Lips, and Hair, as *Schenkus obs. l. 3.* relates out of *Cornelius Gemma*. Among internal parts affected, we reckon for the principal Subject the part which serves for the Secrecion, Collection, and Discharge of the Bile, namely, the Liver, Gall-bladder, Choledochal Duct and the *Pancreas*. *Zacchias* also *quest. medicolegal. tom. consil. 15.* observed the Lungs in this Disease to be tinged with a citrine Colour. In a Man, forty years old, whom I opened at *Hanover*, I found not only all the *viscera* both in the Belly and Breast, but the very Brain, Bones and Cartilages tinged with an Icteric yellow Tincture. In opening other Bodies, that died of the Palsy, I have found sometimes Stones, sometimes viscid Phlegm, or some thing else in the biliary Passages, which stopped these Vessels.

§. 4. Diagnostick.

THe Diagnostick of a Jaundice in general may be taken, without more to do, from the Habit of Body and Colour of the u-

rine, especially if you look on the white of the greater *canthus* of the Eye, which is found first of all to be tinged yellow, a Sluggishness of Body always precedes, there is an Itching all over the Skin, especially in the Back, by reason of the Acrimony of the Bile diffused thro the Pores of the Skin, and mixt with the *Serum*. The Urine between a yellow and red looks almost black. And there are such urines indeed in other Diseases; but here lies the difference: In a Jaundice if a linen cloth be dipt in the urine, and then dried, it retains its yellow Colour; and in other Diseases, if you dip a cloth in the urine and dry it, the yellowness flies away with the Moisture. Generally the Urine is thick, turbid, and little in Quantity, the Stools are whitish and hard, like *album Gracum*; because the ways are obstructed, by which the yellow Humor with the bile was carried to the Guts, and so the Excrements are not tinged. The Belly is generally costive, through Defect of Salt contained in the Bile, which used to vellicate the Guts and stimulate the Fibres to Excretion. The whites of the Eyes and Temples are yellow, because most of the volatil part is sublimed. The Mouth is bitter and thirsty, the Appetite decayed, there is an Oppression at the Heart and in the right *hypochondrium*, the Head akes, Sleep is troubled, the Hair sheds, and the Breath is short. The special Signs of a black Jaundice are said to be the Inclination of all the Skin to a black, brown, or livid Colour, there is a heavy Pain, Swelling or a Pain after much walking in the left *hypochondrium*, Sanguis, Stoolishness, Want of Sleep,

Sleep, Fainting, Urine enclining to a black, a costive Body, &c.

§. 5. Cause.

THE old Galenists say, the efficient Cause of this discolouring is either the abundance or depraved quality of the Bile, which diffuses it self either critically or symptomatically all over the body. The antecedent Causes with them are either a hot Intemperature of the Liver, in which case too much Bile is bred, or a Stoppage of the Choledochal Duct either by a too thick Bile, by phlegmatick Humors mixt with it, or by Stones, or whether it is, that these Ducts are compressed by the Humors of the adjoyning parts, or that they are closed up, for want of Bile. They hold that the black Jaundice proceeds from black Bile or Melancholy; and therefore they blame the Spleen for breeding such a bad Humor, and they say, the proximate and conjunct Cause is the Effusion of Melancholy into the circumference of the Body. A cold and dry Intemperature of the whole Body, Liver, or Spleen or Inflammations and Apostems of the Spleen may breed or encrease Melancholy; and so may the frequent use of Melancholick things, the suppression of the Hemorrhoids, Grief and Care, the turning of Blood or Bile into black juice, either by Aduulsion or Congelation.

§. 6.

Paracelsus lib. n. de iſt. c. 1. endeavours utterly to overthrow the Galenical Pathology about Causes, and boldly contradicts their Opinion, who ascribe

this Disease to Bile, since neither Sickneſs nor Colour comes from Bile, and to make it out, he denies that the Gall gives the icteritious Tincture, because there is no Tincture in it, nor in the Spleen, and the Bile is in the Guts. For he holds, that Colours arise from the Mixture of Salts; as we see Painters make several Colours of the Mixture of several mineral Salts. Therefore, according to him, the yellow Jaundice consists of an enallick Vitriol, and liquid Sulphur; and the black of *Arsen* Vitriol and dissolved Sulphur. But these things are so obscure, that we shall proceed to things that are better understood.

§. 7.

Helmont, as well as his Master Paracelsus, denies that the Bile is amiss, but holds, that the Jaundice proceeds from some fault in the digestive Faculty; because the liquid excrement is carried upwards, which should be purged downwards. He makes the Cause to be an anodyne Poyson, and its Residence is from the pylorus to the end of the duodenum, it stops, and so the Stone and Jaundice turn the Blood into yellow Poyson. And this is often caused by Grief.

§. 8.

Mills thinks, the Cause of a Jaundice consists in this, that Bile, separated in the Liver is either not sufficiently, or not at all, carried to the Gall-bladder, because the Ways are obstructed, but must of Necessity regurgitate into the Mass of Blood; and so he questions not, but it arises from

the Obstruction of the cylick Passage and common Duct and sometimes the whole Blood is in fault, when Bile is bred too plentifully and quickly in the mass by reason of its over exalted, sulphureous, and saline fixt Particles; so that it cannot be discharged soon enough the ordinary Ways: Wherefore this, parting from the Blood with the serum, is fixt to the solid Parts, and gives them its Tincture. Which is the reason, that the Bite of a Viper, and abuse of strong Drink are apt to cause this Disease; and for the same reason he thinks that a Tertian Ague may easily terminate in this Disease.

§. 9.

Sylvius harps much upon the same string. He holds, that the Bile is hindered in its Motion to the Guts, by Obstruction of the Cholochoal Duct, or by a too viscid pancreatick Juice. He supposes also, the Bile is bred and detained too long in the *cystis*, and that sometimes it undergoes a notable Alteration, which makes it move more impetuously and abundantly towards the Mass of Blood; yet it mixes not with it so well as it used; but is only blended with it, and so is apt to separate again from it, and to dy and tinge the solid parts with its Colour. And he questions not, but sometimes a Jaundice may be caused by poisonous volatil Spirits, mixt with the Bile and Blood. He proves it by the biting of a Viper.

§. 10.

The Cartesians think, this Disease is bred, when Bile offends in the Figure of its Particles and in Motion. Then a due quantity of it is not discharged into the Parts for Excrements, which tarrying long in the Blood, and circulating with it, and its Figure not agreeing with the Pores of the parts, it tinges the Skin yellow, and breeds the Jaundice. By black Choler they understand, acid, sharp and gross Particles, which are in the same manner peccant.

§. 11.

We indeed, as most do, think, that in this Disease the Excretion of the Bile into the Guts is hindered, by the various Obstruction of the Liver and biliary Duct, and so it regurgitates, and is carried with the Blood all over the Body, and dyes it with its yellow Colour. But we likewise think, that there is some Viscidity in this yellow Humor, which not only causes obstructions in the vessels of the Liver and other parts, but through the habit of the body; and so this yellow humor stagnates there (otherwise the Yellowness would return by the lymphatick Vessels to the Blood, and would not overflow the Skin.) Nor is the Liver always affected with a hot intemperature, as is commonly thought: for this Disease depends upon the Obstruction, not only of the biliary Ducts, but of the Vessels of the whole Body, especially of the Skin; yea experience shows, that this Disease is bred in a very cold Intemperature.

And

And we do not only throw the procatarrick Cause of a Jaundice upon drinking Brandy or Strong Wines, but upon drinking cold Water, and eating viscid and cold Meats. Nevertheless we deny nor, but this Disease may be caused by a volatil Salt, and the over Spirituosity or Fatness of the Bile. For sometimes the Blood is ill fermented through the Bile's fault; if the Bile or its Sulphur be too much exalted, corrupt or abundant, or if its sharp lixivial Salt be diminished or weakened, whereupon the Chyle cannot be well separated from the Excrements of the Belly, nor be disposed in a due manner for futura sanguification; and so (as the Saying is) a fault in the first Concoction is seldom corrected in the second. Therefore sharp and sulphureous, or poisonous Particles occasion a Jaundice; thus we see a Jaundice is caused by the bite of a Viper; or when many such hot, sharp, or sulphureous Particles are mixt with the Mass of Blood, much Bile must arise from that Mixture, which cannot all be received by its Bladder, and then must needs re stagnate into the Blood, and so be carried to all parts of the Body.

Moreover I do not question, but there is a Conglomeration of the animal Spirits in the orbicular Fibres of the Gall-bladder, which by thus spasmodically contracting the Gall-bladder causes all the Bile to regurgitate towards the *vena porta* into the Mass of Blood; and this may be done by an austere Humor stagnating about the Orifice of the Gall-bladder; nor do we exclude Stones, Worms, &c. When the Skin is dyed of a Blackish Yellow, it is a Sign of the black Jaundice,

in which case I suspect there is a fixt vitriolick Bile, which is able not only to tinge the Skin, but the whole body.

§. 12. Prognostick.

NOW we will go to the Prognostick. And hither belong the following Aphorisms of Hippocrates §. 4. aph. 62. *Those who in Fevers have the Jaundice come before the seventh day, it is bad, because the viscosity is greater.* Also §. 4. aph. 64. *They who in Fevers have the jaundice come on the seventh day; or the ninth, or the eleventh, or the fourteenth, it is good, unless the right hypochondrium be hard, otherwise it is not good; because the peccant Matter is expelled by violent crises, which scarce happens in our cold Countries.* He says also §. 5. aph. 42. *For such as are ill of the Jaundice, to have their Liver hard it is bad; because the Disease then is fixt and great.* A Jaundice, that is critical, goes away of it self, and so does that which is caused by the biting of venomous Beasts. But it is hard to cure one caused by a calculous or carnous Obstruction either of the biliary Ducts or the *porus biliaris* in the Gut. It is exceeding difficult to cure one, that is loose in his Belly, or when the Disease is inveterate, or has grievous Diseases or Symptoms joyned with it, especially in Women with Child and old Men, or when it proceeds from an Inflammation, or Scirrhus of the Liver; or, as it was said, when it comes in Fevers before the critical day, especially if it appear without a cold Fit: for then it signifies some grievous Disease, is bred in the Liver; and so it threatens

threatens other grievous Diseases, as the Dropsie, Cachexy, Consumption, and the like. The Jaundice is often mortal, if it proceed from a cold Cause, sometime also the lacteal Vessels are obstructed thereby, and then Patients die of a lingering Consumption. Now to the Cure, and first to the Dietetick.

§. 13. Dietetick Cure.

AMong the six non-natural things, the Air, since we cannot live a Moment without it, must be exactly observed, that it be temperate: we disapprove of a cold one; for Cold renders the Bile more Viscous, and so makes the Obstruction pertinacious. For the Air getting into the Fibres of the Lungs, and protracted for the Eventilation of the Heart, and creeping thence by latent Passages all over the Body, may do Violence to it.

The Patient must also use a sound Diet and ease of Digestion; let his Meat be seasoned with Capers, Endive, Parsly Root and other opening and inciding Herbs and Roots. Let him forbear all Meats that abound with Phlegm, such as are all that are viscons; Fish, Pulse, Summer Fruits, &c. and such as are apt to turn to Bile, especially such as have Honey, Sugar or Spice in them, and spirituous things, such as Brandy, &c. for these things fire the Blood and Bile the more. According to *Horrace Ser. 2. vers. 2.*

*Dulcia se in bilem vertent, stomachique tumultum
Lenta feret pituita.*

Gluttony is hurtful: for the Disturbance of the Spirits, and the Fluctuation of the Viscuals after immoderate eating encrease, and a Man is never himself, if his Body be over crammed. The Patient may drink some aperient Decoction, or Physick Ale, and now and then take a Glass of good Wine.

He must neither move nor rest too much.

He must sleep in the Night and wake in the Day.

He must go to Stool either naturally or artificially.

The Passions of the Mind must be moderate; especially Anger, and Grief, which, as *Helmont* testifies hinders the Digestion not only of the Stomach, but also of the Bile.

§. 14. Pharmaceutick Cure.

NOW we will proceed to that, for whose sake all these things were premised, and that is the Pharmaceutick Cure. And first of all the Galenical Method was this. Since they accuse the Obstruction of the Passages of the Vessels, by which Bile, as they say, is carried out of the Liver and Spleen into the Guts, and it is thought that the Liver thereupon grows hot, and abundance of Bile is gathered, therefore they give a Clyster: for the Patients generally are costive, because the Bile does not descend, which uses to irritate the Guts. Then they render the Humors, that produce gross Obstructions, obedient to Nature by inciding and opening Medicines, such as Root of Gentian Parsly, *Asarum*, Fenil, Leaves of Fumitory, Ground pine, Sorel, also Waters of Agrimony, Hops,

Hop, Dodder, Fenil, Cichory, Endive, and Decoctions made of these things, but I have no mind to give you any Receipts of them, because you may meet with them any where. Afterwards they carry off the prepared Humor by evacuating Medicines, such as Electuary of Juice of Roses, *diaprunum solutivum*, Tamarinds, *pilula de rhabarbaro*, Manna, Cassia and other Cholagogues. But if black Bile be peccant, they betake themselves to stronger things, namely Melanagogues, of which they make all manner of Medicines, Infusions, Decoctions, Powders, &c. according to the Indication of the Disease, the Intention of the Physician, and the Patient's Pleasure and Custom, admitting also of Vomits when there is Occasion. After all they commend Diureticks and Diaphoreticks, given in due time and manner.

Among Specificks *Capivaccium* commends an Infusion of filings of Steel. *Galen* gives *Asparagus* to People in a Jaundice. *Atius* gives earth Worms dried in an Oven powdered with Myrrh and other appropriate Medicines and he writes that so the Jaundice is the next day carried off by Urine. Some commend a Wolf's Liver for a Specifick.

Among Corroboraters they reckon *species diacarna*, *dialacca*, *diarrhon santalon*, *diarrhodon Abbatis*, Treacle, Mithridate, Whey of Goat's Milk, a Decoction of Horehound, red Vetches, &c. the Dung of a Dog and a Goose. If it be the black Jaundice the Ancients commend the vulgar Spleneticks as good Aperients,

§. 15.

Petracelsus says, corrected Rhubarb is a most excellent Remedy for the Jaundice; and he corrects it with Oyl of Sweet Almonds. He writes *lib. de prep.* 1. that all Excrements and Dungs cure the Jaundice. In *lib. de thermis* he commends *Sal gemm* and Tin for the Cure of this Disease. He says that all things which cure the Jaundice come from *Mercurius Veneris*. He says Juniper Berries and black Cherry Water are good in the Jaundice. *l. de Ictero c. 3.* He magnifies a Lizard sowed in a Bag and a Spider, for curing a Fever and Jaundice. He writes likewise that Horses Dung, made hot and given the Patient, cures a Jaundice, and so does ones Urine put in a Bladder and hung nine Days in the Smeak.

The modern Hermeticks Commend Spirit of Vitriol, Salt, Tartar, with Saffron. *Crollius* commends Oyl of Amber, *basil. chym. p.* 193. given in Water of Endive, Dodder, Cichory, or Celandine. They reckon up several Specificks, We shall only slightly mention the chiefest of them, and they are Celandine, Root of Turmeric, Rhubarb, Saffron, the yellow Stone found in the Gall of an Ox, Root of *Anchusa*, the yellow Skin of Hens Gizzards and Feet, the Patient's Urine drunk with Juice of Horehound, Earth-worms, Dogs Dung and Goose Dung especially if she be fed with Celandine, Goat's and Horse Dung, the Ashes of Sparrows Feathers, the Brain of a Partridge, Lice, Buggs, Beetles, a Torch applied alive to the Navil. till it dies, and some of them sow a live Lizard

Lizard in Cotton Cloth, and hang it about their Neck, and so they do with a live Spider.

§. 16.

According to **Helmont** any thing cures a Jaundice, which extinguishes that Poyson, which changes the Blood yellow; all *Alkalies* are Antidotes, as are *Millepedes*, Worms, Lice and other Insects, inasmuch as they destroy the Poyson that alienates the foresaid Faculties. Not that those Worms or Simples presently open the Gall-bladder. Nor can we imagine that a bite or sting in the Skin can presently shut the passage of the Gall into the *intestinum jejunum*. But the virulence does so disaffect the *pylorus*, that the digestive and distributive Faculty is presently alienated; and therefore it is, that one bitten with a Viper turns presently Isterick. Wherefore according to our Author the Jaundice is cured by applying Flowers of Corn-Marigold, Dandelion and several such things, and frequently by some Antidotes that are agreeable to the *pylorus*. And Rhubarb, Saffron, Turmeric, and Dock do not cure because they are Yellow, but inasmuch as they are good for the detersion of the Poyson. He cries up Sale of Urine, as the highest and most approved Medicine for curing the Jaundice. So likewise a Pike Fish applied alive to the Stomach kills the Poyson.

§. 17.

UU His Cure of this Disease is performed by an exact method, which proceeds according to three Indications. 1. To

remove the Obstructions of the Ducts or *porus biliaris*, or cystick Passages, or Choledochal Vessels. 2. To reduce the Blood to a due temper, that it breed not Bile beyond measure, or make it unfit for Secretion. 3. To preserve Strength, and help the Symptoms. That he may satisfy the first Indication, he prescribes Purgatives, by which the descent of the Bile may be irritated towards the Intestines, and the obstructed Vessels may be cleared; to which end he advises Vomits, that is, while the tone of the *viscera* and the Strength are good: for by these the loaded Stomach is eased of much viscous Phlegm, and likewise by irritating the Choledochal Vessels and violently shaking all the hepatic Ducts, they clear their Obstructions, and so the Bile endeavours its passage by the usual Ways. Among these Vomits he highly values *crocus metallorum* with Wine or *Oxymel* of Squills, or Powder of *asarum* half a Drachm with *secula Ari* and *tartarum vitriolatum*, or *gum gutta* eight Grains with *tartarum vitriolatum* six Grains.

Among Purgers he prefers before all others half an Ounce of the Electuary of Juice of Roses, or half a Drachm of Rhubarb with Salt of Wormwood and Cream of Tartar each half a Scruple. If you have a Mind to an Infusion or Apozem, you may consult the Author. He also gives the following Powder;

Take of the best Rhubarb from half a Drachm to a Drachm, Salt of Wormwood one Scruple. Mix them. Make a Powder.

These

These things premised, the Author passes to Deopilatives and Specificks, which are either Diureticks or Diaphoreticks, inasmuch, namely, as such Medicines promote the Secretion of the Bile from the Blood, and when it is separated, urge its passage through the Ducts of the Liver, and discharge the bilious recrements by Sweat and Urine, such as Tincture of Antimony or *Elixir proprietatis Paracelsi* an Ounce, giving twenty Drops at a time. *Mixtura simplex* and Salt of Tartar are proper. This excellent Author cites up the Virtue of Gesner's *antiile* in this Disease;

Take of the Root of large Nettle one Pound, Saffron one Scruple. Bruise them well, and extract the Tincture with white Wine. The Dose is four Ounces in the Morning for four Days.

He highly values also this following of *Jole's*;

Take of the Root of greater Celandine sliced two handfuls, Juniper berries one handful. Bruise them, and pour a pint of Rhenish Wine to them. Draw the Juice. The Dose four Ounces twice a Day.

I find the following Pills approved by the Author;

Take of Powder of Turmeric, Rhubarb each one Drachm and an half, middle rind of Capers, Root of *asarum* each half a Drachm, extract of Gentian, lesser Centaury each one Drachm and an half, Salt of Wormwood half an Ounce, Seed of Cresses

half a Drachm, Rocket half a Scruple, *elixir proprietatis* half an Ounce, gum Ammoniack dissolved in *aqua lumbricorum* what is sufficient. Make a mass for Pills, and let it be made into small ones. The Dose half a Drachm Morning and Evening.

Among Specificks and things appropriate to this Disease he commends Earth worms, Goose and Sheeps Dung, Millepedes either in form of a Powder, or squeezed out with Celandine water, and this expressed Juice may be drank twice a day for a Week. And by reason of their Volatil Salt he cries up the vulgar and empirical Remedy, to wit, nine live Lice. And for the same reason he commends flowers of Sal Ammoniack, Salt of Amber, Harts-horn, Soot, Spirit of Harts-horn tinged with Saffron from fifteen Drops to twenty. He holds that Chalybeates and Spaw waters do good.

Among Externals and Sympatheticks he extols a live Tench applied to the Itterick's right *hypochondrium*, or to the Soles of his Feet. He has also known this Disease, when inveterate and deaf to other Remedies, has been cured by the secret way following;

Take of new made Urine of the Itterick Person, all that he makes at one time, ashes of Ashen wood sifted a sufficient quantity. Mix them and reduce them to a Mass, which must be made into three Balls of equal bigness, and set in a warm place near a Fire or Stove: As these Balls grow hard, the Jaundice wasts away.

He

He commends the following mixture for a Cordial.

Take of *aqua mirabilis* eight Ounces, *lumb. scorum* four Ounces, Syrup of Orange Pill one Ounce.

If Pain is violent, he flies to Anodynes,

§. 18.

Sylvius thinks the Cure of the Disease consists in this; that the remote causes be avoided, to wit, grief of mind, excess in strong Wines or Brandy. One must shun, as he would Poyson, whatever alters and vitiates the Bile, that is, the viperine matter, must be corrected, and brought into the Guts: also the viscid Phlegm, that obstructs the Choledochal Duct, must be incised and carried off: for inciding whereof all Aromaticks and Volatil Salts are proper; and for carrying it off, divers Purgatives, Rhubarb, &c. but he says the following Decoction exceeds them all;

Take of Root of Mat. er, greater Celandine, Parsly each half an Ounce, Flowers of Broom half an handful, Seed of Columbine, Parsly, Anise each two Drachms, crude Tartar a Drachm and an half. Boyl them in white Wine and fair Water each what is sufficient. Dissolve in the Colature of Syrup of Diacnium, of Elixchory with Rhubarb each one Ounce and an half. Mix them.

Let the Patient take twice or thrice a Day as much of this Apozem as will give him two or three

Stools in a day, and so make him void the Bile with the Phlegm. If this Disease had its rise from the Poyson of the Viper, Sudorificks abounding with a volatil Salt are proper, such as *Andromachus* (commonly called *Venice*) Treacle, Trochiscs of Vipers, *antimonium diaphoreticum*, *bezoarticum minerale*, &c.

The Author's Empirical and Specifick Remedies are Hemp seed boyled in Cows Milk till it burst, and strained: let the Patient drink five Ounces of this Decoction three or four times a day. Also a Drachm of *Venice Soap* dissolved in warm Milk and sweetened with a little Sugar, given twice a day. He gives a great *encomium* to Tincture of Saffron made with a volatil Spirit. He values *opium* it self, as a powerful Conqueror of the animal Spirits, and as it is oily and fat; for he does not question but fat and oily things do bind the animal Spirits, and Cure the Jaundice; and he confirms this by fixt and anodyne Sulphurs of Minerals and Metals their gently fixing and appeasing of the volatil Spirits. For taking away the yellowness of the Skin he commends the following mixture;

Take of Water of Grass, Wormwood each two Ounces, Tincture of Saffron, Spirit of Sal Ammoniack each half a Drachm, *bezoarticum minerale* one Scruple, *laudanum opiatum* three Grains, Syrup of Fenil one Ounce. Mix them. Give a Spoonful of it often.

If the Patient sweat, the Cure may the sooner be expected; but if much red Matter be voided by Urine, and a little after settle, it will prove flower.

§. 19.

§. 19.

UC and the Cartesians proceed in this Method. In the beginning we do not approve of Purgatives; and Rhubarb or Senna must not be boyled, as some would have them; but the Purgative Virtue is rather to be got out of them by Infusion, otherwise Particles are fetcht out, which after purging bind the Body again, which may prove very inconvenient and prejudicial. The following Apozem therefore will be useful, with which I always begin the Cure;

Take of Dandelion, the greater Celandine each one Ounce, Leaves of Cichory, Straw-berry each one Ounce and an half, Horehound half an Handful, white Tartar, Leaves of Senna three Drachms. Infuse them in Wine and Water equal parts. Boyl them to a Quart. And strain the Decoction. Or,

Take of Leaves of Horehound, Dodder, greater Celandine, Southernwood, Goose-grass, Flowers of St. John's wort, Columbine each half an Handful, Turmeric three Drachms, monks Rhubarb two Ounces, Leaves of Senna one Ounce, Cream of Tartar three Drachms, Root of greater Celandine one Ounce. Make a Bag. Or,

Take of Wood of Sassafras half an Ounce, Guajacum rasped, the bark of the same each five Drachms, China seven Drachms, Sarsaparilla ten Drachms, scraped Liquorice three Drachms, Root of greater Celandine one

Ounce, Turmeric half an Ounce, Leaves of greater Celandine two Handfuls, Vervain, Betony, Bawm each half an Handful, the whitest crude Tartar half an Ounce, seed of Anise two Drachms, Hemp five Drachms, Fenil one Drachm. Make a warm Infusion for a Night or more in a double Vessel well stopp'd, and in a sufficient quantity of Rhenish Wine make a gentle Decoction. To one quart of the Colature add of Honey of Squills one Ounce and an half, Salt of Wormwood one Drachm, Spirit of Sal Ammoniack one Drachm, *aqua vite Mauboli* an Ounce and half. Mix them. Make an Apozem.

By this we may very well incide gross Humors, that stop any Passages, and carry them off, since Phlegmatick Humors cannot conveniently be carried off without previous preparation. A Decoction of opening Herbs and Roots, such as the greater Celandine, especially if Goose Dung be added, is very effectual in this case; here follows a Composition;

Take of Root of Cichory, greater Celandine, Mather each three Drachms, Leaves of Celandine, Dandelion, Groend pine, Agrimony each half an Handful, seeds of Anise, *daucus*, Caraway each one Drachm, Goose Dung gathered in the Spring time. Sheeps Dung each half an Ounce. Boyl them in a sufficient quantity of Water to half a Pint. In the Colature dissolve of Syrup of Cichory with Rhubarb half an Ounce. Mix them. Or,

Take of Straw-berry Leaves, with the Roots three Handfuls, Currans

rans three Ounces. Boyl them in a sufficient quantity of fair Water. Make a Potion.

Or the Patient may make an Infusion of Celandine in Wine, and drink a draught every Morning. When the Patient has taken some of these things, he may be purged in manner following ;

Take of *Electuarium diacatholicon cum succo rosarum* one Drachm and an half, choice Rhubarb, from half to a whole Drachm, *Mercurius dulcis* six Grains. Mix them. Make an Electuary. Or,

Take of our Tincture of Rhubarb made with Salt of Tartar, Endive and Cichory Water, and give of it from half to a whole Ounce.

And because I have often found Aloeticks do good, the following Pills may be given ;

Take of extract of Aloes twelve Grains, Resin of Scammony three Grains, *Mercurius dulcis* ten Grains, Oyl of Mace one Drop. Mix them. Make Pills. Or in form of a Powder ;

Take of *pulvis laxativus* one Scruple, Magistery of Jalap, Scammony each three Grains, Cream of Tartar ten Grains. Mix them. Make a Powder.

And Clysters made of Aperients are good to open the Choledochal Duct. If viscid Bile be lodged in the Stomach it will be the safest way to give a Vomit, and Diaphoreticks with it, that we may kill two Birds with one Stone ;

Take of *tartarum emeticum* two or three Grains, Diaphoretick Antimony six Grains, Salt of Wormwood two Grains. Mix them.

Finally all things are good, that are digestive in the Blood ; such as *tartarus nitratus*, precious stones, Pearl, Crabs Eyes, especially if there be any austerity in the Blood or Bile. Then some Steel may be given, such as the following Electuary ;

Take of prepared Steel one Ounce, *species diarrhodon Abbatis* half an Ounce, Salt of Wormwood half a Drachm, with Syrup of Vinegar and Cichory each what is sufficient. Make an Electuary. The Patient may take a Drachm of this Electuary every Day for twelve or fifteen Days.

Take of Tincture of Columbine flowers, *spiritus aperitivus Penoti* equal parts. Mix them.

But if there be no austerity, these things would not be so proper ; but then the Obstructions should be cleared by convenient Aperients for which end I communicate the following Specifick as a Secret ;

Take of Goose Dung gathered in Spring time and dried in the Sun, Chicken Dung each one Drachm, *Lapis fulminans* half a Drachm, Salt of Wormwood two Scruples, Powder of Cinnamon one Scruple, Sugar one Drachm and an half. Mix them. Make a fine Powder. Divide it into four equal parts, let the Patient take it every Morning fasting, having premised Universal.

sals. I have seen the Jaundice perfectly Cured by it. Or ;

Take of the Skin of the Gizzard and Feet of a Hen and a Goose one Drachm, Volatil Salt of Urine, Worms, greater Celandine each one Scruple. Mix them. Make a Powder.

Dungs also are good, Sheep's, Asles, Goats, Dogs and Horses infused or boyled in Wine: for the excrements of these Animals are wholly nitro-sulphureous; wherefore they have an admirable inciding, attenuating and dissolving faculty; and they retain the virtues of the Simples, on which these Animals feed, which by concoction in the Stomachs of these Creatures are turned into a kind of quintessence: and therefore they are so effectual in the Cure of several Diseases.

The Salt also of the *caput mortuum* of Viuriol exalted by iterated Cohobations, Spirits and Salts of Urine and Sal Ammoniac are excellent Deobstruents. We magnifie the volatil Salt of Worms, Sows, Beetles, &c.

The acid Spirit of Sal Ammoniac and Mars have an admirable Virtue against this Disease. These two Spirits combined may be dropt into the ordinary drink, so as the Acidity can scarce be discerned; by this Remedy alone I have cured several. Volatil Salt of Tartar, *rinctura tartari antimoniata*, common Spirit of Salt, *spiritus aperitivus Penoti*; *crocus Martis aperitivum* &c. are Specificks.

And fixt Diaphoreticks are proper, if they have also an opening Faculty, and either subtilise and incide or soak up the Mucilage of

the Humors, which thing tartareous, saline and antimonial Medicines are able to do. *Mindeverus* commends half a Drachm of Powder of Sow-bread in mulled Wine. We also recommend Diureticks in this Disease, as having absterfivè Salts in them, that correct the Viscidity of the Bile, and carry it off by Urine: for in icterick Urines beside the yellow Tincture we see abundance of Contents, which require to be carried off. Wherefore when once there is an alteration in the Colour and the tartareous Contents, we may reckon the Disease is in the Declension. Here are some Receipts;

Tincture of Saffron made with volatil Spirit of Urine about fifteen or twenty Drops is an excellent Medicine. Or ;

Take of Spirit of Tartar, Sal Ammoniac each one Scruple, *antimonium diaphoreticum* half a Scruple, Rob of Elder one Drachm, Water of greater Celandine one Ounce, Cinnamon half an Ounce. Mix them. Make a Potiou. Or ;

Take of *antimonium diaphoreticum, martiale* half a Scruple at a time. Or ;

Take of Salt of Urine half a Scruple, volatil Salt of Amber five Grains, Crab's Eyes half a Drachm. Mix them. Make a Powder for one Dose.

Among other things these are good, *spiritus Penoti aperitivus, liquor spleneticus Sobreroi, acanum Tartari*, &c.

Sometimes this Disease follows Fevers, and it signifies there are Obstructions, which when they come upon Fevers, must needs be bad; yet sometimes it is critical in Fevers, and then it is not so bad. Roots of Cichory with Currans, eaten instead of Lettuce at Supper are good.

There is nothing better for the Stomach in this Disease, than the fat of a Dog or a Viper distilled, which has often done good, when all things else signified nothing. But if there be any Suspicion, that the Jaundice proceeds from a Conglomeration of the animal Spirits at the Gall bladder which strains and spasmodically affects it. To this end Cinnabarines will be good, (specially half a Scruple of our *cinnabaris solaris* with six Grains of Sal Ammoniack. Also *balsamus nervinus*, Spirit of Sal Ammoniack tinged with Saffron, *liquor cornu cervi succinatus*, and other Nervines will be very good.

If there be swooning and the strength much decayed, the following mixture will be proper;

Take of Water of lesser Centaury, Fumitory, Strawberry, Pearl each one Ounce, Cinnamon six Drachms, Shavings of Ivory prepared, Harts-horn prepared, Tincture of Saffron each one Scruple, *spiritus salis dulcis* half a Scruple, Syrup of Cinnamon six Drachms. Mix them. This mixture must be taken a Spoonful at once.

As for Externals I have so often been deceived by them, I shall not so much as mention them. Only among the magnetick Cures I have several times experienced this fol-

lowing, for which I could never yet imagine a reason; Let the Patient piss in some brass Vessel, save the Urine three days, then boyl it over the Fire, and when it is boyled, pour it into running water, not standing.

The black Jaundice being a desperate Disease requires the noblest Medicines. At the beginning the following antiisterick Decoction of the famous *Wedelius* is proper;

Take of the five opening Roots, Mather, Cichory each two Drachms, Leaves of Agrimony, noble Liver-wort, Strawberry, Fumitory, Horehound, lesser Centaury, Wormwood each half an Handful, Flowers of St. John's-wort two Pugils, yellow Sanders one Drachm, Saffron half a Drachm, Cinnamon one Drachm. Boyl them in Water and Wine as much as is sufficient.

Also with *Forellus* his Bag I lately cured a Maid successfully of this Disease;

Take of Root of Mather, Rhapontick, greater Celandine each half an Ounce, Rhubarb, Turmeric each two Drachms, *trochisci de eupatorio* one Drachm, Saffron one Scruple, Leaves of Strawberry, Horehound each one Handful, Schœnanth half a Drachm. Cut them, and put them in a Bag for a measure of Wine.

She likewise took the following Mixture;

Take of *aqua polychresta*, *aperitiva*, *hepatica Mynsichti* each four Ounces, Cinnamon half an Ounce, Essence

Essence of the greater Celandine two Drachms, *spiritus salis Ammoniaci anisatus* one Scruple, *syrupus de duabus radicibus* two Ounces. Mix them.

And here all sharp volatil Salts are proper, whereby the corrupt and excessive Oyliness of the Bile is taken off, and on the contrary its dull and portick Salt is sharpened, and the Acidity of the Pancreatic Juice is corrected. Beside these saline Spirits tempered with Oily things are proper, such as Spirit of Urine or Worms mixt with Essence of greater Celandine, Southernwood, lesser Centaury, Turmeric and Dandelion; the Spirit also of Wheaten or Ry Bread is good to restore a due *Crafsis* and tincture to the Blood, when it is spoiled. They say, that *lapis fulminaris* and the cast skins of Serpents are Specificks in this Disease, perhaps because they imbibe the Acid, that lies in the first ways. Martial Medicines are good: there *pulvis Langianus*, so much commended by *Simon Pauli*, will be proper.

Take of Filings of Steel one drachm and an half, Seed of Cloumbine one Scruple, Powder of Earth-worms half a Drachm. Mix them. Make a Powder.

All bitter things and Spleneticks are of great virtue in this Case. Also to recover the *Crafsis* of the Blood the following distilled Antistick Water may be prescribed;

Take of root of Alkanet, Mather, greater Celandine, Turmeric, Chelery, sharp pointed Dock, A-

sparagus each half an Ounce, Leaves of Agrimony, German-der, Strawberry, noble Liver-wort, Flowers of Marigold, Broom, St. John's-wort, lesser Centaury each one handful, the yellow inner rind of Berberries, Tamarisk each half an Ounce, Ivy berries one Drachms and an half, Earth-worms, *Millepedes*, May Beetles each three drachms, Goose and Hens dung gathered in the Spring each six Drachms, Saffron half an Ounce, Infuse them in Wine and Water of the greater Celandine each one pint. After four days destil them according to art in Glas Organs. Let the Patient take three spoonfuls of this Water in the Morning, and at four in the Afternoon every day. Or;

Take of root of Alkanet, Mather, Smallage, Bitter-sweet, sharp pointed Dock, greater Nettle; *Asparagus*, Turmeric, greater Celandine, Leaves of Agrimony, lesser Centaury, Maidenhair, *Carduus benedictus*, German-der, Strawberry, Dodder, Flowers of yellow Ox eye, Marigold, Columbine, St. John's-wort, middle rind of Berberry, Elder, Tincture of Rhubarb, Rhapontick, Filings of Steel, Earth-worms prepared. Infuse them in Water of Southernwood, Dodder, Endive, and Wine. Destil them. This Water, for its egregious and appropriate virtues, may be called *aqua cystica*.

When these things will not do, you may go to the Mineral Waters. These are Empirical Medicines.

Three drops of the Gall of an Hyena taken in greater Celandine

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Water

Water is cried up by the Greeks as a never failing Medicine.

The Heart also of a Wren eaten, is said to cure the Jaundice.

A Drachm of the Powder of a Parrot taken, cures any Jaundice. So likewise it is remarkable, that the Liver of a Sea Tortoise bruised

with Water of greater Celandine and drunk, cures the Jaundice.

The following experiment will scarce ever fail you. Put the Patient's Urine in a Pot, cover it with a Tile, boyl it half away, and hide it in Horse Dung.

CHAP.

CHAP. IX.

Of the Dropsy.

§. 1.

THe Dropsy is called *hydrops*; *hydropſis*, *aqua intercus*, and by Celsus *morbus hydropicus*. Paracellus calls it *ros humidas*, and *ſal* or *liquor reſolutus*, to diſtinguiſh it from ſimple uſual Water. The Dropsie in general denotes a ſerous gathering; if in the Head, it is called *hydrocephalus*; if in the Breath, *hydrops pectoris*; if in the Belly, *ascites*; if in the Cod, *hernia aquoſa*; if in the Womb, *hydrops uteri*; if in the whole Habit of the Body, *anasarca* and *leucophlegmatia*; if the Belly be ſwollen with Wind, and ſound like a Drum, it is called *tympaniſis*.

But here we ſhall conſider three ſorts principally, viz. an *ascites*, an *anasarca* or *leucophlegmatia* and a Tympany. And we will begin with an *ascites*, in which a ſerous matter gathered in the abdomen, and contained either in the *hydatides* or in the *omentum*, *peritonæum* and Muſcles of the abdomen, ſtrangely diſtends it, and ſometimes the *ſcrotum*, or the *pubes*, Thighs, and Legs; wherefore it is called *ascites* or *abdominalis*, becauſe the Belly is like a Bouget filled with Water.

A Dropsie in general is defined to be, A ſwelling of the whole Body, but generally of the Abdomen; with a Collection of watry or flatulent Matter.

§. 2. Part affected.

THe Ancients, ſome of them took the Liver, others the Meſentery, ſome the Spleen, for the part affected. Some of the moderns take it to be the *intestinum jejunum* and its lacteal Veins. We blame the whole Body, the *genus venoſum*, & *nervoſum* eſpecially. But we think, that for the moſt part the *Omentum* is affected in this Diſeaſe, and its Veſſels are broke, and ſo all potulent Matter returns into the Cavity of the Abdomen: for it is my opinion, that all potulent things paſs through the *omentum* to the Kidneys. Therefore ſuch creatures as have no *omentum* make no Urine, as Birds, Fiſh, &c. Beſides all hydropical People upon diſſection are found to have their *omenta* rotten, or torn or full of ſwellings. At Hanover one wedding, an Herniſtomist, cut a *hernia omentalis* out, but cut a great part of the *omentum* with it: and the Patient complains of a

Great Difficulty of Urine; if he drink much, he has a pain at his Stomach, and is always loose. Which makes me think, that some of the Vessels which carried the Urine streight to the emulgents, were cut off: therefore all that is potent passes to the *duodenum*, and there hinders Fermentation of the Meat, and makes the Fibres lax. And there is something more, which makes it very probable that all that is potent, passes not by the Guts into the lacteal Veins, and by the thoracick Duct to the Heart; because the *pylorus* of the Stomach is turn'd upwards, that no potent Matter may run our. Surely therefore potent things go to the bottom of the Stomach, and parts where it is joyned to the *omentum*: and if its Vessels be broke or swelled, the Potulent Matter must of necessity fall into the Cavity of the *abdomen*, and cause a Dropsie.

I make no question likewise, but when the Spirits do not well irradiate those parts, and open the Pores of the Stomach, a dropsie may arise.

§. 3. Diagnostick.

AN *Ascites* is easily known: for in it the *abdomen* is very much swollen, and daily encreases, especially after eating and drinking plentifully. I have observ'd the Swelling to encrease and decrease with the Moon. Usually the *pubes*, *Thighs*, and *Legs* swell in both Sexes, and in Men the *scrotum*, by the natural bursting of which I saw a Souldier cured, who voided above forty Pints of Water. When they turn themselves in Bed they sometimes, tho not always, find a Fluctuation from one side to the o-

ther. There is Difficulty of Breathing, because the Diaphragm cannot play. Their Body wasts and grows thin. They have always a cough, sometimes dry and sometimes moist: for now and then the water gets to the Lungs. Sometimes there is a slow hec tick Fever, because the Blood being robbed of its *serum*, and not diluted, with new Chyle, grows thick, rough and acid. Their Urine is generally red, with a thick Sediment, their Face looks yellow as if they were in a Jaundice. *Franciscus de Porta* does elegantly sum up all the Signs, *de sign. morb. l. 3. c. 12.*

*Hydropum sedus color arguit,
& tumor ingens.
Et sitis, & dyspnœa, cibi que a-
versa c-pido,
Occupat & varias inflatio tur-
gida sedes.*

Sometimes, though not always, the appetite is lost, there is Nauseousness, Vomiting, Looseness, running Ulcers in the Legs and Arms. They are insatiably thirsty, and the more for drinking. For,

*Quo plus sunt pota, plus sitiun-
tur aqua.*

§. 4.

AN *anasarca* or *leucoplegmatia* is known by a lax Swelling of the whole Body, which is soft and usually pale and the Limbs pit. Patients are not always so thirsty as in an *ascites*. It is easier to be cured than an *ascites*. In a Tympany the Face does not recede so far from its natural State, & here the Swelling of the *abdomen* with Wind especially contained

In the Guts, and with extravasated serum, is so great, that when the Belly is hit, it sounds like a Drum. For a Tympany seldom goes alone, but has Ordinarily an *ascites* attending it; though there may be a Tympany alone, as Experience lately taught me in a Girl of nine years old, in whom there was not one drop of water or serum in the abdomen, but both the abdomen and Guts were distended, and gave a plain sound. But three Symptoms do always attend this Disease, Shortness of Breath, Paucity of Urine, and violent Thirst.

§. 5. Cause.

According to the Galenists, the proximate immediate efficient Cause, is Matter not fit for Nutrition, which is serous pituitous or flatulent, gathered in the Cavity of the lowest Belly, or between the Skin and Flesh, by its abundance distending the parts of the Body. The Propinquous antecedent Cause is the frustration of Sanguification proceeding from coldness of the Liver. And this coldness may be produced by an over cold Air; therefore Hippocrates, aph. 22. §. 3. says, that Dropsies come in Autumn. Too much taking of cold things, especially drinking of cold and foul water after bathing or being in the heat of the Sun, cools the Bowels exceedingly. All manner of excessive Excretions, and Bleeding may cause it, Galen. l. 4. de præsign. ex puls. blames the Spleen, and a *scirrhus* of the Liver. Some blame the breach of a Vein, or of Blisters full of water which fill the abdomen. Some think it runs in by the breach of the umbilical Vessels, Some, by the Ureters being bro-

ken; others hold that water may get into the abdomen by occult as well as manifest Passages.

§. 6.

According to Paracelsus the Cause of a Dropsie is an Aluminous Tartar. He calls a Dropsie *spilt Water, spilt Liquor, a moist Dew*, and he affirms, it is nothing else but Water. He compares it to Rains: for as in the Macrocosm a Man is drowned by an Inundation; so in the Microcosm the Spirit of Life is drowned by Water. This Dissolution of aluminous Salt arises from the impression of the microcosmical Heaven and its Stars. He makes seven kinds of Dropsies, viz a Dropsie of the Liver, Spleen, Lungs, Brain, Gall, Kidneys, and Heart. He denies, that the Tympany is one kind of Dropsie; but he says it is a stoppage of the Belly; and Wind is caused, when nature has no vent. He makes two Tympanies, one of the Guts, another of the Womb. Though in truth the stoppage of the Belly is not a Dropsie but the Wind-Colick; and the Tympany of the Womb is the inflation thereof.

§. 7.

Helment blames the Spleen and not the Liver; because in many that died of a Dropsie he has found the Liver sound. He boasts how he has cured two thousand dropfical People, whose Urine was of a bloody black Colour, and they made not above a Spoonful in one Night; whose Liver if it had been bad, he confesses he could never have cured them. So dysenterick Persons and great drinkers

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kers

kers fall into the Dropsie, not through any fault in the Liver, but because some Blood gathers in the convex part of a Gut. He holds, there is a three fold Matter. First, extravasated Blood. Secondly Water in the *abdomen*; which is a morbid product. And he says, there is a third Matter which has its internal efficient in the internal vital Principles of the *Archeus* of the Kidneys. For he holds, that there is a certain virulent anodyne Quality in extravasated Blood, or in some such Matter, which makes the Kidney forget its Office of separating the *serum* and so sends it back to the Belly. In a Tympany he says, that Wind proceeds from a certain indisposition of the local *Archeus*, which turns Meat, that is no way Windy, into Wind.

§. 8.

Ullis thinks that an *ascites* proceeds from mere Water, which fills the parts in the lower Belly, and besides the Membranes are distended by the disorder of the Spirits, and so the Swelling increases. For in an *ascites* sometimes the Water so fluctuates, that the Patient can feel it. Then, when the *viscera* are so soaked in the *lymphæ*, they rot, and their *parenchyma* and the Coats of the Vessels and Glands swell, so that all put together they amount to a large Bulk. He thinks also that the *serum* too much separated from the Mass of Blood may cause an *anasarca*, in which he maintains that the *serum* is poured out of the Mouth of the Arteries into the Skin. He also blames the chyle poured out of its proper Vessels.

§. 9.

Sibius holds, that an *anasarca* comes from a thin, watry and salt *serum*, poured out of the lymphatick and lacteal Vessels, supposing Obstructions by a viscid Humor to be the most usual Cause of a Dropsie, which is attended by a stagnation of the *lymphæ* or Chyle; but especially of drink in the Vessels, and then by a breach, and Effusion of what is contained, into any place capable of it.

§. 10.

The Cartesians hold, that the lymphatick Vessels are broke by some hard thing, either pricking or cutting them, so that the *lymphæ* in an *ascites* is poured into the Belly; and in an *anasarca* into the whole Body. For when water in the *abdomen* grows thick, then the *superficies* of all the *viscera*, yea, the *peritonæum* and Muscles of the Body are beset with a Coat, which hinders the Vapors produced in the Body from being insensibly evacuated; hence it is, that it is so difficult to make such Patients sweat; but we find, if a sharp and inciding Clyster with some sudorifick Salt in it be given, and the Pores of the Guts thereby opened, when the pectuous Coat is removed, there is a great discharge of Water out of the *Abdomen*.

§. 11.

NOW we will examine the causes of the Dropsie: and we will begin with an *ascites*. The cause therefore of this Disease is ordinarily

ordinarily the *lymphæ*, Chyle, or too much Drink, and sometimes *serum* separated from the Blood, that is, when the Mass of Blood, being deprived of its volatil Salt, breeds nothing but *lymphæ*, which either by Stagnation or Acrimony distends or breaks the Vessels. It is very rare, that the Stagnation of Urine causes this Disease, for I have known several die of a Stoppage of Urine, without any such Inundation. Generally the cause of this Disease is a weakness in the Blood, which makes it insufficient to turn the Aliment into its Substance, and so must of necessity throw it upon other parts. The proximate continent cause is the opening of the Vessels, especially of the *omentum*, either because drink, or the *lymphæ*, or Chyle, do abound or are over thick, or move too violently, or because by their Acrimony they eat through the Vessels, or because they continually press upon the Vessels, that were obstructed before by gross and pituitous Humors, or by the Humors of the Glands of the Mesentery and *omentum*, which at last burst, and so run out. I opened a young Man, in whom I found all the Mesentery and *omentum* full of Humors and *scirrhi*, and the Liver sound. And he had been a great Water drinker, which occasioned his Dropsy. The antecedent Cause is partly a serous Cacochymy, partly Phlegm, partly a perverse Texture and Structure of some Parts, and partly a weak Influx of animal Spirits upon the cutaneous Fibres; for according to this influx there is either a too great Stricture or Relaxation of the Skin. And when the cutaneous Fibres are too much contracted, Sweat

and Transpiration are kept in, and so of necessity Vapors are condensed in the Body, at length the *serum* is encreased, and then a Dropsy ensues. The procatastic Causes are various, but chiefly Drink, either watry, spirituous, or thick, impure, and turbid, when it is taken in excess. Because by its coldness, it makes the Humors thick and immovable, destroys the natural Ferments, and contracts the excretory Pores, so that sometimes vomiting follows cold Drink, when the Pores of the Stomach are so contracted by Cold, that the Vapors which used to pass by these Pores, do not pass, but by distending the Stomach, and by sticking in the Fibres, and vellicating them, do cause Vomiting. Milk Meats eaten unmeasurably or unseasonably occasion it, also taking cold when the Body is hot, Diseases of the Mind, Melancholy, Grief, &c. the Jaundice, a Fever, some Excretions either augmented or suppressed: augmented, as over-vomiting, a continual Looseness, excessive *Venus*, too great expence of Blood: suppressed, as the *Menstrua*, *lochia*, Hemorrhoids, Bleeding, *Fistula's* and the like. To these may be added some Diseases, that usually attend an *ascites*, as a Consumption, Quartan Ague, the Jaundice, a *Scirrhus*, Inflammation or Ulcer; Obstruction of the Ureters, &c.

The Cause of a Tympany is Wind pent up in the Stomach, Guts, or *Omentum*, which thereupon distends the *Peritonæum*.

The antecedent Cause is partly abundance of Phlegm in these parts, partly too much Heat, or a depraved Effervescence in the Guts between the Bile and Melancholick

lick Juice, or the Pancreatick mixt with Phlegm; the Obstruction of the Chylifick parts, and such things contributing much thereto.

The procatartick Causes, are all things that encrease Phlegm or Wind, or, when they are encreased, encrease the Heat and sharpen the Bile.

The cause of an *anasarca* is a *lympa*, by reason of a Clamminess and Toughness, and its dull Motion thereupon turned into a Gelly, and therefore Stopping in the lymphatick Vessels, or the Vessels being open, poured into the Pannicle.

The antecedent Cause is partly the abundance of those Humors, partly their Thickness and Clamminess (an Obstruction, Compression or Apertion of those Vessels and of the parts serving for Chylification and Sanguification ensuing) and an Imbecillity arising thereupon.

The external Causes are a cold, moist, foggy, subterraneous or unusual air. Therefore such as sail from *Germany* to *Guiny* are usually troubled with Melancholy, Grief, acute and chronical Diseases, but especially with the Dropsie;

S. 12. Prognostick.

A Dropsie that comes from a *Scirrhus* of any part, or from cedematous Tumors of the Mesentery and Omentum, or from the scarcity of volatill Sale in the Blood or of animal Spirits, is scarce curable. They are in less danger, to whose Nature and Age the Disease is conformable, according to Hipp. *f. 2. aph. 34.* Difficulty of Breathing betokens the Disease to be inveterate; because it argues, the Humors are incrassated by conti-

nuance in the *Abdomen*, so that Vapors arising from thence, they cannot freely pass through the Pores of the Diaphragm; and the danger is greater, if they be sharp, for Acrimony easily may corrode the adjacent Parts. And I have very often, yea always in a manner, found the omentum all corroded in such as I opened, after they were dead of a Dropsie. Which makes the Disease incurable; for then all the Drink immediately runs into the *abdomen*. A Cough in a Dropsie is bad; for it usually is a Sign. that the Acrimony comes through the Diaphragm to the Lungs. Thirst is bad; for it signifies, the *lympa* is so plentifully discharged into the Cavity of the *abdomen*, that the Blood grows dry, and has not so much Moisture in it, as to moisten the Mouth. It is a bad Sign in a Dropsie, when no Fluctuation of the Water can be felt, for then the Belly is over-stretched with water.

The Following Aphorisms of Hippocrates have respect to this Disease. *f. 3. aph. 22.* Many Summer Diseases fall out in Autumn; Agues quartan and erratick, Diseases of the Spleen, Dropsies, Consumption, Stoppage of urine, &c.

S. 4. aph. 11. They that have the Gripes and Tortures about the Navil, and Pain in the Loyns, which can neither be cured by Medicine nor otherwise, it turns to a dry Dropsie. In this case there is Obstruction by gross Vapors.

S. 6. aphor. 8. In a Dropsie Sores arising in the Body are not easily cured. The reason is, because the Dropsie fills the Vessels of the Parts, and when the Matter cannot ulcerate, it endeavours to get out at the Sore, so that it has no Rest, which

which is exceeding requisite for the Cure of Sores.

S. 6. aph. 14. *If one be ill of a Dropsie, and the water run out of the Veins into the Belly, the Disease is at an end.*

S. 7. aph. 5. *After Madness, a Looseness, or Dropsie, or delirium is good.*

Also, S. 7. aph. 55. *They, whose Liver being full of water bursts into the omentum, their Belly fills with water, and they die.* Hence it is plain, that Hippocrates did then suspect the omentum in this Disease. The most dangerous sort of all is a Tympany, next an ascites; an anasarca is easier to cure than any of the rest. If in a Tympany there arise an Inflammation of the Navil, or of any Muscle of the Belly, then Death is at hand, as I observed in two Patients. I have seen Sores in the Legs, and Evacuations thereby sometimes give relief, and sometimes kill. A red and high coloured Urine, a quick Pulse, Heat, and Leanness of the Body, decay of Strength signify the Disease is dangerous. There is some Hope of a Cure, if the Patient be in his prime and strong, and if he have no febrile disposition.

§. 13. Dietetick Cure.

IN a pituitous Constitution the Air must incline to heat; an autumnal, foggy and cold Air are bad.

The Meat must be of good Juice and easie of Concoction, roast is better then boiled, Broths with opening Roots boiled in them are good: All fower, salt, viscid, and milk Meats must be avoided. All Pulse, especially the stitulent it bad.

The Drink must be Beer well defecated, with Worm-wood or Juniper-Berries steeped in it, and every Draught may have ten or twenty Drops of Spirit of Mars dropt into it. A little Wine is allowable. But all Brandy and aqua vita is bad. And Drunkards have three Plagues, the Consumption, Gout, and Dropsie. Therefore Abstinence is the best Medicine.

Abstine & efficitur, quod medicina nequit.

Avoid large drinking of cold Drink.

Motion must be moderate; for they are forced to abstain from all violent Motion, because of their Difficulty of Breathing; the sudden cooling of the Body, after violent Motion and Heat, is bad.

Sleep must be moderate and in the Night, not in the Day at noon. We must not cure Watching by Narcoticks; for they may prove Necroticks.

The excreta and retenta must be agreeable to Nature: for, as was said before, when irregular, they may cause a Dropsie.

The Mind must be kept cheerful: for Helmont has observed, that Grief alone is able to cause a Dropsie. Care, Thoughtfulness, and Passions of that Nature; and excessive Venus may easily produce this Disease.

§. 14. Pharmaceutick Cure.

THE Galenists prescribe universal and particular Remedies. The universal are either Preparers or Evacuators. The Preparers are the opening Roots, and Cichory, Bark of Dwarf Elder, Tamarisk, *calamus aromaticus* Leaves of Agrimony, Hore-hound, Germander, Ground-pine, Rosemary, *scordium*, Worm-wood, Seed of Fenil, *daucus*, Syrup of the two and five opening Roots, of Worm-wood, Agrimony, Maiden-hair simple and compound, and of Squills, and a thousand things besides.

Their Evacuators are either Vomitory, Purgative, Sudorifick or Diuterick. If the Matter be contained in the Stomach or flow to it, they provoke vomit by thrusting their Finger in their Throat, or with hot Water, or a Decoction of Horse Radish, and Powder of *asarum*, Dill and a little *Oxymel* and Oyl Olive.

The Belly is loosened by a Clyster, made of a Decoction of Chamomil, wild Majoran, Rew, lesser Centaury and carminative Seeds, adding hot Oyls and some Purgatives. Their Purgatives are such as purge Water. Their Sweats are Internal, or External. Then they give things to strengthen the Liver. Among Externals they commend Baths natural and artificial, Cataplasms, Oynments, and Oyls.

§. 15.

They cure a Tympany almost with the same Remedies, only they use more Carminatives. A-

mong chlrurgical Means they will not admit of Bleeding, tho *Avicenna* allows of it in every Dropsie; yet they will set a Cupping-glass to the Navil. *Aetius* advises the opening of the *scrotum* with sharp things or with a Seton. They order Cauteries, Causticks and Issues to be used with Caution. In a desperate Case they tap, but they give the Prognostick, namely if the Inwards be not decayed.

§. 16.

PARACELSUS (whose Epitaph says, he cured all dropfical People) will have Moisture to be wasted by the Sulphur of all Metals. And above all he advises to expel water by Mercurial *arcana*. For which purpose he commends his *præcipiolus* or *Mercurius è sua minera mortuus eductus*, above other Remedies; because *Mercury* only is able to expel the Water, that lies in the Pores of the Skin, to which no Spirit can come, but *Mercury*. In another Place he commends *diacurinum* in Lozenges, Essence of Tartar, Vitriol, *diacubibe*, and *spiritus vita* drawn from Gold. He commends this following for taking away all Dropsies;

Take of red Tartar one Pound,
Swallow-wort half a Pound, *Col-
cothar* eight Ounces, strong
Wine as much as will incorpo-
rate them. Destil them by an
Alembick. The Dose is half a
Drachm Morning and Evening.

Paracelsus affirms, that the Sublimation of Antimony cures all Diseases of the Liver.

§. 17.

According to *Helmont* a Dropsie is regularly cured if the Kidney pass a great deal of Urine, either spontaneously or by Medicine. And a relapse follows, if the Disease be not removed from the Kidney.

§. 18.

Ullig cures an *ascites*, by Vomits, Purges, Diureticks, Diaphoreticks, and in a word, by Hydragogues. Diureticks are best in an *Ascites* and Diaphoreticks in an *Anasarca*. He commends Clysters. In a Tympany he will not admit of spirituous and volatil things. He is rather for gentle Purges and Clysters. Among topical Remedies he sets little by carminative and hot things, which consist of a volatil, but rather uses fixt Salts.

§. 19.

According to *Sylvius*, when Water offends in place it indicates a removal: the Breach of the Vessels, Consolidation, and Obstruction, opening. He corrects the Redundance, Saltiness and Viscidity of the *serum* by Aromaticks. When the Vessels are broke, he uses Consolidants: But they are of most use in the beginning of a Dropsie when the *lymphæ*, Chyle or Drink stagnates and gathers in any place, so as to swell, the Humor must be removed by Sweating or Tapping. He removes Obstructions of the Vessels caused by coagulated Phlegm, with inciding and attenuating things. He commends

Hydragogues, and External Means, as Bathing. He is also for Salivation: But then the Patient must have a care of Cold, and must look to his Throat, lest the *uvula*, Glands or part of the Tongue should be consumed.

§. 20.

The Cartesian Method of curing the Dropsie consists in gentle Incisers, in Hydragogues, and in strengthening the *viscera*.

§. 21.

IN our Opinion, care must be taken to remove Obstructions, and restore the parts, and if the Disease have got Head, to get out all the potulent and serous Matter, that ouzes out of the Lymphaducts, and Vessels of the *omentum* and other parts (but first the Acidity must be corrected.) Then, to invigorate and strengthen the Mass of Blood. As to the first, we will begin with gentle Incisers; to which purpose a Decoction of the Woods will be proper, to which two Scruples of the fixt Salt of Broom, Beans or Wormwood, and *spiritus salis dulcis* may be added. Chalybeate Wine is good in this Case, and Wine wherein white Flints with metallick Veins have been quenched; for they open and bind gently afterward. But while they are taking these things, they must now and then take a Purge, such as this following;

Take of *Tartarus vitriolatus* fifteen Grains, Resine of Jalap half a Scruple, Trochiscs of *Albandal* two Grains. Mix them, make a Powder. Take

Take of Resin of Jalap half a Scruple, Trochiscs of *albandal* Three Grains, Magistery of Gum *gutta* two Grains, *Mercurius dulcis* half a Scruple, Oyl of Caraway three Drops. Mix them. Make eleven Pills. Or;

Take of Essence of Buck-bean one Ounce, Extract of Spurge one Drachm. Mix them. The Dose from twenty Drops to thirty.

Or give only one ounce of Syrup of Buck-thorn at several times, till the Humor is spent; or this following for such as are strong;

Take of Leaves of *Senna* two Drachms; Rhubarb one Drachm and an half, Leaves of Buck-bean half an Handful, Tamarinds half an Ounce. Boyl them in a sufficient quantity of Spring Water to three Ounces. In the Colature dissolve of Manna one Ounce, Syrup of Buck-thorn

half an Ounce, and of Juice of Roses two Drachms. Mix them. Make a Potion.

Pills of Gum Ammoniack and *Mercurius dulcis* are good. *Turpetum minrale* is also good. Mr. Boyle commends *pitula lunaris*. I would recommend the following Mixture to all People.

Take of Elixir *proprietas*, *spiritus tartari* *sassafratus* each half an Ounce, *mixture de tribus* three Ounces, liquid Essence of Wormwood one Ounce. Mix them, and let them stand in Digestion for a Day and a night. Then add a fourth part of Essence of citron Rind. The Dose is from one Scruple to a Drachm in Wine or Water of the Berries or Flowers of Elder two Ounces.

Sudorificks and Diaphoreticks are good.

C H A P. X.

Of the Bloody-Flux, commonly called Hepatick, and the Excess or Suppression of the Hæmorrhoids.

§. I.

THE Hepatick Flux (so called, because it is commonly thought to proceed from the Liver, which ministers matter to that Flux) is, *a copious and frequent voiding by Stool Matter like the washings of Flesh, or of a reddish yellow Colour.* It is a rare Disease, and I never met with it but thrice in all my Practice.

The Immoderate Flux of the Hæmorrhoids is, *when abundance of Blood runs out of the hæmorrhoidal Arteries, and they are called the open Hæmorrhoids, which run at certain times, as Womens Menstruo.* The blind Hæmorrhoids or Piles are, *when they swell with much Pain and no Blood.* They are distinguished from the Hepatick Flux, because in the Hæmorrhoids the Excrements follow the Blood, in the Hepatick Flux on the contrary.

§. 2. *Part affected.*

SOME Authors say an Hepatick Flux comes from the biliary Ducts, and is nothing but virious

Bile, because of a bad Constitution of the Liver, viz. its moist and cold, or hot and soft intemperature mixt with a little Blood. Some derive it from the *vena porta*, others from the *anastomosis* of the Mesenterick Arteries. I have seen the *vasa brevia* broke: therefore I question not but partly they, and partly the arterious Vessels, opening into the Guts and Mesentery, are broke.

In the Hæmorrhoids the Ancients accused the hæmorrhoidal Veins. But I think the Vessels of the *anus*, and the Arteries, rather than the Veins, proceeding from the lower Mesenterick, and the Iliacal Hypogastrick Artery to the *anus*, are the parts affected both in the Hæmorrhoids and Piles.

§. 3. *Diagnostick.*

IN the Hepatick Dysentery Sheer Blood, or Blood and Pus is not voided as in a true Dysentery; but only Blood diluted with serum-like Blood and Water, or the Washing of Flesh. The Hepatick Flux is not continual, but stops for two or three Days, and then returns. In an Hepatick Flux there is no Pain or but very little in the right *Hypochondrium*,

pochondrium, and no Shavings of the Guts come. If black Blood come once with Swooning and other bad Symptoms, the Patient is in danger. The Patient is pale, for loss of Blood. The Patient himself is best able to give an account of the Hemorrhoids and Piles.

§. 4. Cause.

THE Galenists blame the Imbecillity of the Liver, contracted from either a hot or cold Intemperature of Liver: If from a hot, there is Thirst, and Vomiting of yellow and cruginous Bile; the Tongue is rough, the Patients are of a hot habit of Body, hairy and passionate. If cold, the Signs are contrary. In the Hemorrhoids they hold the proximate Cause to be the Repletion, Distension and Apertion of the Veins in the *anus* with feculent, melancholick Blood. The immediate Cause of the running Hemorrhoids is the Irritation of the expulsive Faculty: Of the blind Piles, the Debilitation of the expulsive Faculty.

§. 5.

THE Paracelsists make the Hemorrhoids to be a Disease like the Leprosie; and in the Hepatick Flux they say, strong Salts are dissolved in the *serum*.

§. 6.

ACCORDING to Helmont the Hemorrhoids arise from a disagreement between the Bile and the *pylorus*, and not from the Blood in the hemorrhoidal Vessels.

§. 7.

ALLIS places the Cause of these Diseases in the Acrimony, Dyscrasie and too great Effervescence of the Blood, which opens the mesenterick and hemorrhoidal Vessels.

§. 8.

SYLVIVS never met with the Hepatick Flux (which I admire at) yet he thinks it comes from a serous Blood, that opens the Vessels: and he says, the Blood is made serous by drinking too much watry things, Beer, &c. and Brandy, whereby the firmness and Tone of the Parts is destroyed. He says, the flux of the Hemorrhoids, is either critical or symptomatick, and this comes from Acrimony of Humors, which opens the Hemorrhoidal Vessels.

§. 9.

THE Cartesians in these Fluxes blame the sharp, acid, corroding, cutting and pungent Particles of the Blood, which rend and open the Fibres of the Vessels; and so let out the Blood.

§. 10.

IN our Opinion the Hepatick Flux proceeds from Acrimony of Humors, opening the Coats of the Arteries especially. And the Hemorrhoids, from the Acrimony likewise of Blood, fretting the capillary Arteries, which as *Sylvius* observes, consist but of a single Coat. In the blind Piles the hemorrhoidal Vessels are obstructed, either

either by cold, being in the extreme parts of the Body; or because the Veins ascend perpendicularly, the hæmorrhoidal Arteries may easily be compressed, and so the Blood cannot be sufficiently forced upwards. And when there is Acrimony, there is great Pain.

§. 11. *Prognostick.*

THE Hepatick Flux, though indolent, is not so easie to cure, but often proves fatal, especially if there be a Fever, and it be malignant. In cold Constitutions it is apt to turn to a Dropsie or Consumption.

The Flux of the *Hæmorrhoids* should not be neglected, because if it continue long, it may occasion divers mischiefs, as Dropsies, Cachexies and Consumptions: Yet a little Bleeding, especially if it be periodical, is good in melancholick Cases. Wherefore a moderate Flux must not be stopt suddenly, nor must all the Veins be stopt; because experience has taught us, that it has occasioned grievous Diseases. *Hippocrates* gives us good Caution, *f. 6 aph. 12.* *When a man has a mind to stop the Hæmorrhoids, which have been of long continuance, unless one be left running, he runs the hazard of a Dropsie or Consumption.* When the *Hæmorrhoids* are very painful, and return often, especially if any error be committed in the Externals, they may degenerate into grievous Diseases, Inflammation, Gangrene, Induration, Ulcer or *fistula*, which prove incurable by reason of the Part, the continual Falling down of Excrements, and other Causes. Yet the *Hæmorrhoids* are good

for several Persons. For, as *Hippocrates S. 6. §. 11.* says, the *Hæmorrhoids* are good for the Melancholick and Nephritick. And the following Aphorisms have respect to this place. *All rejection of Blood upwards is bad, but black downwards is good.* Also *f. 6. aph. 21.* *When such as are mad have the varices and Hemorrhoids, the Madness is over.* They preserve from the Pleurisie, Peripneumony, phagedæna, furunculus, *terminthus*, Thrush, and from the Leprosie. They are good for the Varices, Gour, hard Spleen, the Suppression of the *Menstrua*, and, as I have observed, for Women with Child.

§. 12. *Dietetick Cure.*

THE Air must be changed according to the variety of the Causes, and for the most part it must be temperate.

Meat must be moderate and easie of Concoction. When the *Hæmorrhoids* run too much; and in the Hepatick Flux it must be moderately astringent; but in the blind Piles it must be something moist. The Drink must be little, a small red Wine may be allowed. A Decoction of Barley with Harts-horn is good. I have found a Decoction of Toad-flax good in the *Hæmorrhoids*, and Emulsions also of the cold seeds made with a Decoction of Harts-horn. Sleep is good, and Rest. The Passions of the Mind, Studies, and Venus must be avoided; for they hinder the Cure. The Excrements must be like the natural.

§. 13. *Pharmaceutick Cure.*

THE Galenical Method consists, First in the Cure of the intemperature of the Liver and its Flaccidity. Secondly in the removing the Causes thereof. Thirdly in Mitigation of the Symptoms. They purge, and in a *Plethora* they bleed. And at last they give Astringents, and Incrasants for the Blood. But in the blind Piles they do all they can to open. If the Body be plethorick they bleed in the Foot, and apply opening Medicines to the Parts.

§. 14.

THE Paracelsists prescribe things to take off the Acrimony of the Salts and restore the natural balsam of the Blood. And in the blind Piles they use gentle Corrosives, which do not hurt the Guts. They mitigate Pain with Saturnine Medicines.

§. 15.

Melmont cures only by *arcana*, the chief of which is the Sweat of dying Persons taken in clothes and applied to the Hemorrhoids.

§. 16.

Mullis has the following inventions. 1. To stop the Flux of the Blood by the Belly and its Turgescence. 2. To divide the Flux another way. 3. To stop the gaping Orifices of the Vessels within the *Intestinum rectum*.

He uses Ligatures and Bleeds, and uses outward Applications also. He commends Narcoticks. For prevention he uses Bleeding and Purging. In Summer time it is good to drink Iron-waters.

§. 17.

Solbius, when the Flux of the Hemorrhoids is critical, and gives relief, thinks it ought not to be stoppt: But when it exceeds, and is symptomatick, he is for stopping it with his well known mixture, or with some other Medicine, that is good to stop Blood.

§. 18.

THE Cartesians, for taking off the sharpness of Blood, commend gentle Balsamicks. To correct sharp Salt Humors, they advise Opiates and external Astringents.

§. 19.

THE Cure of the Hepatick Flux consists chiefly in removing the Causes and mitigating the Symptoms. First therefore some aperient Decoction with gentle Astringents may be given. Then a Purge may be given of Rheubarb, Myrobalans or Tamarind Whey. Afterwards Astringents and Driers may be taken inwardly and applied outwardly. Then Sweats may be given. Chalybeates and *Tartarus vitriolatus* and *chalybeatus* are good Medicines. Several styptick Powders are good. I highly value this following;

Take

Take of *crocus Martis* calcined to redness, Vitriol of Mars calcined to whiteness each one Drachm, red Coral prepared one Drachm and an half, Camphore six Grains, Vitriolick Soot scraped off the Bottom of a brass Kettle half a Drachm, *laudanum cydoniatum Hoffmanni* five Grains. Mix them. Make a Powder. The Dose is from half a Scruple to a Scruple in a proper Vehicle.

I have done much good with Tincture of Daisie Flowers, Powder of Liver-wort, Mather, and Blood-stone mixt with *tinctura anodyna*. I highly value Opiates in this Case; but they must be given with Caution. If there be a Plethory, I bleed, apply Cupping-glas-

ses to the Shoulders, and make Ligatures.

The Cure of the Hæmorrhoids differs but little from the Cure of any other bleedings. Therefore first of all, if there be a Plethory I bleed; or if the Patient be low in his Spirits, I cup the Shoulders or Loyns. If it proceed from thinness of Blood, we must use Incrassants and Vulneraries. If it proceed from too great thickness, Attenuants and Incisers must be used. If from Acrimony, it must be corrected by Spirituous or contrary Acids, or by Narcoticks. If from a salt or acid Humor, or from Worms, *Mercurius dulcis* may be added.

Several outward things, which may be met with in practitioners, may be applied.

CHAP. XI.

Of the Hypochondriack Disease.

§. 1.

THe Hypochondriack Disease is (as far as I am able to judge) *a sad Sensation depending upon a disorder in the animal Spirits.* It differs but little from Womens Vapors.

§. 2. *Division.*

WE formerly divided Melancholy into *cephalick*, when only the Animal Spirits in the Head were disordered, without any fault of the *hypochondria*; and *hypochondriack*, when the Disease has its rise from the *hypochondria*, and when the Spirits, disturbed by content, become gross, few and unequal.

§. 3. *Part affected.*

THe Ancients held the Part affected in this Disease to be the Spleen. But *Sylvius* says, he always found the Spleen the best part in Bodies that died of this Disease. Some of the moderns blame the Stomach, and its depraved Ferment. Others, the Mesentery. Others, a hot Liver

and a cold Stomach. Others, the Stomach and the Guts. But *Willis* knew several troubled with this Disease, who had good Stomachs. Many hold, the Cause is in the Arteries and Veins. Some few, in the *omentum*. And some in the *Pancreas*. We do not only suppose, but verily believe that the Cause of this Disease lies in the sensible, nervous and membranaceous Parts of the *Abdomen*.

§. 4. *Diagnostick.*

THe Patients after eating find a pain in their Stomachs, and complain, that all their food turns to Phlegm. If they Drink after Dinner, they find the Phlegm come into their Mouths. They have a great Appetite, and if they fast long they faint, because the Acid in the Stomach has nothing but its Fibres to work upon. The reason of their spitting is, because the Acid in the *serum* opens the salivary Glands, and while the Blood is in a troubled state, the *serum* is more discharged by the Arteries upon the Glands, than into the Kidneys: Sometimes it comes from the spoiling of the Ferment in the Stomach. Some hypochondriacks,

driacks, who have a lixivious and oily *serum*, have a dry Mouth. They are troubled with Nauseousness and Vomiting, and sower Belchings. The Wind rumbles up and down their Guts, and sometimes puffs up the Colon on the left Side, which makes the Vulgar mistake it for the Spleen. They are short breathed, like Women in the Vapors. They sweat abundance of cold sower Sweats. They have often a Pain in their Back, because of the nervous Parts thereabout. They have great Heat in the *hypochondria*, which shows it self by flushings in the Face. The Pulse is sometimes rare and slow, at other times frequent and quick. They are troubled with Numbness, and cannot Sleep. This is in a manner a pathognomonick Sign, they make now and then a limpid Urine, clear as rock Water, in great quantity and at once. They are troubled with the *Vertigo*. They have a sharp and resolved Judgment. But, which is worst of all, though they have sick Bodics, they have sicker Minds. They are troubled with incurable Despair. They imagine to themselves nothing but black and melancholick things. They are perplexed in Mind upon the least occasion, and are averse to all Joy or Hope.

§. 5. Causes.

THE Galenists make the Cause to be Fumes and Vapors raised from the *hypochondria* to the Brain to be the Cause of this Disease. But the Moderns have sufficiently exploded this Opinion.

§. 6.

THE Paracelsists talk of, I know not what, excrementitious Tarrar, lodged in the Spleen and other Places, which occasions this Disease.

§. 7.

HELMONT derives the Cause of this Disease from the erring duumvirate. And by the Duumvirate he means an acid and *alkali*, whence he derives all the Symptoms in hypochondriack Persons. Grembs thinks there is some Matter lodged in the *pancreas*, which affects the Stomach.

§. 8.

VALENTINUS blames the *succus nervosus* and the animal Spirits. But whether there be such a *succus*, as Glisson and he have imagined, is very much questioned.

§. 9.

SPIBIUS makes the Cause to be the Effervescence of Phlegm and Bile in a different Manner. For he makes three Sorts of hypochondriack Melancholy. The first is *Acid*, when People belch sower. The second *Nidorous*, when they belch strong and ingrateful. The third *Insipid*, when it favors of nothing.

§. 10.

THE Cartesians hold that these melancholick Thoughts arise from the Grossness, Paucity and Inequality of the Spirits.

§. II.

Much hold, that an Acid lodged in the first Ways, and affecting the nervous Fibres, may easily occasion this Disease. Sometimes there is an Acid in the Stomach, sometimes in the pancreatick Juice. Now there are divers sorts of Acids, one of Vinegar, another of Citron, another of Viniol, another of Sulphur, another of Nirre, another of Salt, another of Alum, &c. A vitriolick Acid produces an Epilepsie rather than an hypochondriack Melancholy. And in a hypochondriack Melancholy there is an aluminous Acid.

§. 12. Prognostick.

THis is no dangerous Disease; but it is very tedious. In continuance it sometimes turns to Madness, cephalick Melancholy, Dropsy, Apoplexy, Hectick Fever, or Epilepsie, and so sometimes proves incurable. After recovery by generous Medicines, they are apt to relapse. And Montanus judges very well of it, *consil.* 220. In the Cure of this Disease we can set no time, whether a Month or Year, as we may in other Diseases, but we must keep doing all the life time either for Cure or Prevention.

§. 13. Dietetick.

THe Air must be moderately hot, pure and thin, either by Art or Nature. The Meat must be easy of Concoction: The Drink

must be good Wine diluted with Spaw Waters; but avoid Drunkenness.

*Mens caret Bacchus, non fronte,
Cupido pudore,
Et loca sola metu: quatuor ista
fuge.*

Motion and Rest must be moderate, but rather exceed in Motion. Sleep and Watching likewise must be moderate. As for the excreta and retenta, the Belly must be loose by Art or Nature, the menses, Hamorrhoids, and other natural Excretions must have their natural Course. The Passions of the Mind must be moderate, especially Melancholy. Therefore observe this rule;

*Atra melancholico regnat si in corpore bilis;
Lata ede, lata bibe, lata age, lata
vide.*

§. 14. Pharmaceutick Cure.

THe Galenists, to open Obstructions give gentle Purges, and Clysters, and a gentle Vomit, when they have thus cleared the first Ways, they bleed and open the Hamorrhoids. Then they prepare the melancholick Humor and when it is prepared, they carry it off by Vomits and Purges, and so alternately use Aperients and Purgers. And after all, they strengthen the Parts.

§. 15.

THe Paracelsists dissolve the Tartar by Tartar, and Mercurial Medicines.

§. 16.

Helmont commends a Medicinal acid Water, and Salts. He brags, that he has an Anodyne, which will cure it; but he conceals it.

§. 17.

Ullis advises Martial Aperients, Iron Waters, Purges and Vomits, and sometimes letting of Blood.

§. 18.

Sylvius makes the Cure to consist in four things. 1. In Amending the Diet. 2. In Altering the peccant Humors. 3. In Evacuating of them. 4. In Repairing of Decays. We have done with the Diet. He corrects a viscid Acid with Medicines, that have a lixivious Salt in them. He incides viscid Phlegm with Acids and Gums. If a bilious Humor offend, he corrects it with Acids, oleous things, and volatill Spirits. He carries off the Humors with Phlegmagogues; and he commends Mercurial Medicines. He purges Bile with Rhubarb, Tamarinds and Aloes: And the Scrous Humor with Jalap. If it proceed from the Austerity of the Pancrea-

tick Juice, he corrects it with Spirit of Sal Ammoniack.

§. 19.

The Cartesians prepare the Body and then purge; and use several things prescribed in a cephalick Melancholy.

§. 20.

Ue first likewise prepare and then purge. This may serve for a Preparative;

Take of *Crocus Martis aperitivus* two Drachms, *Tartarus Chalybeatus* half an Ounce, *facula ari* two Drachms, Crabs Eyes one Drachm, *antimonium diaphoreticum* two Scruples. Mix them. Make a Powder, divide it into six equal Parts. Or;

Take of *crocus Martis aperiens cum sale* six Drachms, *pulvis cachecticus Quercetani* two Drachms. Mix them, and divide it into eight equal Parts.

Then we give simple Purgatives with good Success;

Take of Powder of Jalap one Scruple, Salt of Wormwood five Grains, *antimonium diaphoreticum* three Grains. Make a subtil Powder. Or,

Take of *massa pil. coch.* or *tartarear.* half a Drachm or two Scruples, Powder of Castor two Grains, Balsam of Peru ten drops. Make four, five or seven Pills. Repeat them three Mornings.

In strong People Vomits will be good. A Steel Course is good to correct the Dyscrasie of the Blood and Spirits, and exercise must be used. If there be violent Pain, Vomiting, or Loosness, Opiates

will be proper. In the hypochondriack Melancholy fatid hystericks are good. If there be much wind, use Carminatives inwardly and outwardly,

CHAP.

C H A P. XII.

Of the Scurvy.

§. 1.

THE Scurvy is called *scletyrbe*, *σκαλάρη*, and by *Marcellus Oscedo*. It is a Disease familiar upon the Sea-Coasts and in Northern Countries. *Hippocrates* seems to describe it in these words. "In this Disease (says he) the Mouth stinks, the Gums part from the Teeth, the Nose bleeds, Sores break out in the Legs, some heal up and others break out, and the Skin withers and turns black.

Description.

IT may be described to be a *Dyscrasie of the Blood and other Juices*, depending upon an Acid troubling all our Countries, and introducing divers Symptoms in divers Parts. Few people, that fare well, are free from it. It is sometimes hereditary, and sometimes adventitious; sometimes primigenious, which follows no other Disease, sometimes succedaneous to another. Some is fresh and easily cured, another is inveterate and difficult.

§. 2. *Part affected.*

THE Ancients held, the Spleen was affected above all other Parts. But we take the Subject of this Disease to be the Mass of Blood, not excluding the other Humors.

§. 3. *Diagnostick.*

IT is attended with divers Symptoms, with the Head-ach, and frequent *Vertigo's* which end in an Epilepsy or Apoplexy, a Palsy in the Legs or one Side, the Face breaks out with Pimples, the Teeth are troubled with Blackness, Looseness, Falling out, Aching, the Gums are sometimes yellow, sometimes red, swell and itch, and if they be but touched bleed, and are eaten away, the Breath stinks, they spit constantly, they have Convulsions, and Contractions of the Limbs, so that they grow crooked sometimes. They have a Palsy in their tongue, some cannot sleep at all, others sleep too much. They have Shortness of Breath, Palpitation of the Heart, a Disposition to a Consumption, Spitting of Blood, Swooning,

¶

See. They have a bad Stomach, sometimes they are too loose, another while too costive, Gripes in the Guts, which are so racking, that sometimes the *peritoneum* is burst. There are Spots, sometimes red, sometimes livid, and sometimes black, which at last turn to Ulcers. There is a Dulness and Pain in the Limbs, a Wasting of the Flesh, and a Numbness and Tingling of it. The Urine is thin, pale, viscid or red, with Gravel sticking to the Pot. Sometimes there is a Scum upon it, which is mistaken for far.

§. 4. Cause.

THE Ancients blame a Melancholick, tenacious, gross, crude Humor, or a pituitous one, which mixt with the Mass of Blood causes a Cachexy. And this obstructs the Spleen or Liver, and causes all the forementioned Symptoms.

§. 5.

THE Hermeticks derive it from an impure Tartar, diluted with the Serum.

§. 6.

HELMONT blames the Spleen and Stomach. For the Spleen contains an acid Ferment, and the Stomach, because of abundance of fixt Salt performs not its Office aright.

§. 7.

ALL this places the scorbutick *miasma* either in the Mass of Blood, or in the nervous Juice, or in both.

§. 8.

SYMBIUS does not any where professedly treat of the Scurvy. But he ascribes the Cause of it to an over acid pancreatick Juice, vitiously fermenting with the Bile.

§. 9.

THE Cartesians say, the Cause of this Disease does chiefly consist in the Blood, being impregnated with much fixt Salt, or a fixt Acid.

§. 10.

WE hold, that the Cause is a fixt Salt, but sharp likewise, which resides in the Mass of Blood, wherein there are many Acid or Muriatick Particles; Acid, when the Blood is thick and black; Muriatick, when the Blood has lost its Consistency, and is over thin. He that pleases, may find, that all the Symptoms agree with this Cause.

§. 11. Prognostick.

THE Scurvy is a chronical Disease. In the beginning, if it be known, it is easie to cure; but when it has communicated its Malignity to the Viscera, it is scarce curable; yea, it sometimes degenerates into a Dropsie, a Suffocative Catarrh, a mortal Dysentery, or Consumption, seldom into an Apoplexy or Palsy. In such as have it hereditarily, it is scarce ever so perfectly cured, but there will still be some remains of it. It is bad for old Men. Women

men are most subject to it, because of their sedentary Life, they have it sometimes for fifteen or twenty years. Men have it not for above seven or eight. Shortness of Breath, livid or black Sores, and Pains about the Navel are all bad Signs. When the scorbutick viscera grow scirrhus and swell, or the Lungs ulcerate, there is small Hope.

§. 12. Dietetick Cure.

THE Air must be pure Serene, and inclining to a heat; a marine, marshy, cold or foggy Air is bad. The Meat and Drink must be easie of Concoction. Avoid sower and salt things, and sweet things. The Wine must be small; the Beer, if any, well wrought, and joyned with Antiscorbuticks. Brandy is bad. Motion and Rest must be moderate, it is bad to stir after Meal, while the Body abounds with bad Humors. And too much Idleness occasions it. Sleep and watching must be moderate. The Excreta and retenta must observe their natural measures. As for the Passions of the Mind, the Patient must keep himself cheerful: for scorbutick People are generally sad.

§. 13.

THE Galenists use all Medicines, that are good for Melancholy. Therefore they give Preparers and Evacuaters, and at last Specificks.

§. 14.

THE Hermeticks give Medicines to dissolve the obstructing Tartar, both Spirits and Salts.

§. 15.

Helmont gives all volatril things.

§. 16.

Mullis makes the Cure to consist in the following Intensions. In rectifying Chylification in the first Ways, in restoring the lost or depraved Ferments, and in opening Obstructions; to which end he commends Catharticks, Digestives, and Aperients. Diaphoreticks and Diureticks. And he varies his Medicines according to the nature of the Scurvy, whether it be hot or cold.

§. 17.

Sibius says but little of this Disease; however he commends volatril Salts for it.

§. 18.

THE Cartesians Cure consists in volatilizing the fixt Salt in the Blood, and in removing Obstructions.

§. 19.

IT is our Method first to correct Crudities, in the first ways, which is best done by Absorbents mixt with Specificks;

Take of *crocus Martis aperitivus* one Scruple, Ivory prepared without Fire, Crabs-eyes prepared each half a Drachm, *antimonium diaphoreticum* one Scruple. Mix them. Make a Powder, which may be taken for a Week and longer.

Some-

Sometimes I bleed, cup or apply Leeches first. For Purges, Hydragogues and Phlegmagogues are best. If one be strong, Vomits are proper; but they must be gentle. Clysters may be given, and Sweats. But always Specifics must be intermixt. In a hot Scurvy these Vegetables are good, Leaves of Fumitory, Endive, Dandelion, Spleenwort, Scabious, small Sengreen, Wood-sorrel, Brook-lime, Germander, Borage, Roots of *Scorzonera*, Polypody, Cichory; Fenil, Parsly, China, Flowers of Broom, Elder, Marigold; of Fruits, Currans, Damasc Prunes, Walnuts, Citrons, Oranges, Limons, Pine Nuts; Seeds of Citron, Endive, &c. In a cold one all Medicines are proper, which abound with a sharp

volatil Salt, the chief are Scurvy-Grass, Pepper-wort, Horse-Radish, Arsemart, lesser Celandine, Rew, Rocket, Wormwood, Buck-bean (which is an excellent Medicine) Mustard, Elecampane, *Acorus*, *Angelica*, Zedoary, Juniper-berries, gum Ammoniack, *Lacca*, Martial Medicines, &c.

Scorbutick Medicines keep not their Virtue long; nor must the Spirits be prepared by Fermentation, because the volatil Salt is lost. Dried Herbs are seldom used. Divers Receipts may be made out of the foresaid Medicines. And as for the Symptoms they may be referred to their proper Chapters, where you may find their Cure. Only you must add Antiscorbuticks,

CHAP.

CHAP. XIII.

Of the Diseases of the Kidneys and Bladder.

§. I.

THE principal Diseases of the Kidneys and Bladder are the Stone in both, Inflammation and Ulcers in both, Bloody Urine, Diabetes, Pissing of Blood, Dysury and Ischury, or Suppression of Urine, and Strangury, which we shall discourse of in order.

Stone in the Kidneys.

THE Stone in the Kidneys, or nephritick Pain, is a Solution of Continuity arising from Exasperation of the Kidneys by Gravel or a Stone sticking in them, and a painful Crispation of the Fibres of the Kidneys and Ureters, or from a sharp lymph vellicating the Parts.

Distinguishing Signs.

THIS Disease is like the Colick, but is distinguished from it; because the Stone continues fixt in one place; in a Colick the Urine at first is turbid; in the Stone it is clear, in progress of time it gives a turbid Sediment,

and at length Stones and Gravel come away.

Ischury and Dysury.

Ischury and Dysury differ only in degrees, and they are either a Suppression or Imminution of making Water, either because serum is wanting, or the Ferment of the Kidneys is spoiled, or it comes from the Stone, &c.

Strangury.

THE Strangury is a continual desire to make Water, with excessive Pain, and Heat, produced either from the foresaid Causes, or usually from a vitious Acid.

Diabetes.

A Diabetes or *hydrops ad matulam* is a frequent and plentiful making of Water, with the Consumption of the whole Eody, arising from a Salt, which precipitates the Blood into the Serum.

Stone.

Stone.

STONES, namely tartareous Particles, grow in all Parts; but most frequently in the Cavity of the Kidneys and Bladder, and they differ in magnitude, ruggedness, shape, colour and number. It (as all tartareous Diseases are) is hereditary.

§. 2. Part affected.

THE parts affected in all these Diseases are the Organs of Urine, namely, the Kidneys and Bladder, with the parts intermediate and common to them both, the Ureters and *urithra*, yea all the nervous and membranous Parts, that encompass these.

§. 3. Signs of the Stone in the Kidneys.

THE Stone in the Kidneys is discovered by a fixt Pain in the Loins, bloody Urine, thin and watry about the beginning of a nephritick Fit, voiding of small Stones, or Gravel, an acute pain along the Duct of the Ureters, Nauseousness and Vomiting, a Numbness in the Thigh. When the stone gets into the Urinary Passages, or is displaced, so as with its pointed corners to prick a Membrane, the pain encreases. Sometimes viscid Matter is voided, as well as Gravel.

Signs of the Stone in the Bladder.

WHEN there is a Stone in the Bladder, the pain lies toward the *Pubes*, and there is an Itching in the Passage of the *Yard*. Stoppage of Urine is common to both; it is very painful, sometimes the Patient feels the Stone remove from one side of the Bladder to the other, that is, when it is not wrapt in Phlegm; the Urine is often troubled and white as Milk. The Pain argues the bigness of the Stone in the Bladder, which grows worse after exercise of the Body; there is a Pain in making Water, especially before it is made, about the *Glans*. When the Patient makes Water, he also goes to stool. A white, glutinous *mucus* is voided with the Urine, sometimes the Urine is bloody.

Signs of Inflammation of the Kidneys and Bladder.

IN an Inflammation of the Kidneys sometimes a dull, burning or throbbing Pain is felt in the Loins, attended with a continual Fever, Head-ach, unquenchable Thirst, and Resilefness. The Urine is painful and hot; it is difficult to lie either on ones back or on one side; the Patient cannot turn himself nor raise himself up without Pain. In an Inflammation of the Bladder the like Pain is felt above the *Pubes*, there is a Fever and the foresaid Symptoms. The Urine is high coloured, little is

is made, and that with Pain and Heat, the Belly is bound, there is a *tensismus* and redness in the Parts thereabout.

Signs of an Ulcer in the Kidneys and Bladder.

AN Ulcer in the Kidneys and Bladder may be known, when Causes have proceeded, which might occasion an Inflammation or corrode the Kidneys or Bladder, when there are manifest Signs of the Stone. It may be known by the voiding of white, thick, glutinous and stinking *pus*, which is sometimes Bloody. But all the difficulty is, to know, whence the *pus* proceeds, whether from the Kidneys, Bladder, or from some where else: For in an *Empyema* and such Diseases oftentimes *pus* is voided with Urine. But if you take good notice, you may know it, by the site of the Pain, by the Quantity of the *pus*, which comes in greater Plenty from the Kidneys, than from any Place else; by the Quality of it, its Colour, which is whiter, and its Smell, which is pleasanter, than if it came from the Bladder; from its smoother Consistence, but less Glutinousness, than if it came from the Bladder. In an Ulcer of the Bladder there is always in a manner a Dysury or Strangury, and very seldom in an Ulcer of the Kidneys.

Signs of an Ischury and Dysury.

THE Ischury and Dysury are easily known, but not whether they proceed from the Kidneys or Bladder. You may know it by the Swelling or not Swelling of the Bladder in the stoppage of Urine.

The Strangury, *Diabetes* and Incontinence of Urine are easily discernible.

§. 4. *Cause of the Stone.*

THE Galenists thought, the Cause of the Stone was, a thick, rough and phlegmatick Humor, baked by Heat into a Stone, like bricks in a Kilo.

Cause of Inflammation.

IN an Inflammation of the Kidneys and Bladder they blame some hurt of the Vessels through Heat arising from Stagnation, Extravasation, and Corruption of the Blood therein.

Cause of an Ulcer.

AFter an Inflammation of the foresaid parts an Ulcer is often produced. For every Ulcer, according to them, is a Solution of Unity caused by Erosion, and the parts may be corroded by any sharp Humor. So a Stone may tear the parts. A Blow, Fall, Compression, strong and sharp Diureticks, such as *cantharides*, may breed an Ulcer.

cause

Cause of Bloody Urine.

Blood is usually voided by the Kidneys spontaneously and suddenly. Wherefore *Hippocrates* says, They that piss Blood spontaneously and on a sudden, it is a Sign, it comes from a Vein broken in the Kidneys; that which comes from the Bladder, comes slower and in less Quantity. The Cause is Breach of the Blood-Vessels in the Kidneys or Bladder, by Acrimony of Humors or roughness of the Stone.

Cause of an Ischury.

Impotency to make Water comes either through the Palsy or Obstruction of the Nerve, which communicates sense to the Part; or from Diversion of the Spirits and their Disorder, so that the Bladder is insensible of the Provocation by Urine, and so endeavours not to void any, as it falls out in soporous Diseases, the Phrensie and *Deliria*. They blame also the Coldness of the Bladder, which debilitates the expulsive Faculty, and dulls its Sense. Straitness also of the Orifice or Neck of the Bladder, from whatsoever Cause, may hinder voiding of Urine.

This Impotency to make Water may also come from the Kidneys and Ureters, when their attractive Virtue is abolished either by a cold Intemperature, or Obstruction of the said Parts.

Cause of a Diabetes.

IN a *Diabetes Galen*, and most of his followers blame a hot Intemperature of the Kidneys, which makes them draw much serum from the Veins. *Artius*, besides Heat, blames an afflux of sharp Humors. Some blame Bilious and Salt Humors, which continually stimulate the Kidneys to Expulsion. *Artæus* and others, blame a cold Intemperature of the Kidneys, which weakens the retentive Faculty. Others blame the depraved Attraction of the Kidneys.

Cause of Incontinence of Urine.

They say, the chief Cause of Incontinence is in the *Sphincter* Muscle which has lost its Retention and is weakened either by a cold and moist Intemperature, by cold, a cold Bathe, or sitting upon a cold Stone.

§. 5.

Petræus holds, That the Stone is bred of Tartar in the Blood and Urine.

He says, the Dysury and Strangury proceeds from the Tartar of the Stomach, and therefore must be cured in the Stomach. Heat of Urine proceeds from Salt and Sulphur.

Incontinence of Urine proceeds from the Stupefaction of the Parts by a narcotick Sulphur.

He says a *Diabetes* is a dry salt dissolved, and cleft, and angulous through the Mixture of an acute Salt, placed in the middle Centre of

of this principal Part, that is, a chro-
nical permanent and fixt Salt.

§. 6.

Helmont says, the Calculous Matter is *Duetech*, arising from more Volatils, or a tartareous sc-
culent and slimy Matter, whereby the *Duetech* is coagulated. He holds, That the Coagulator inhabits in the Urine. He likewise holds That these aforesaid ferments in the Blad-
der, either breed there, or are sent thither, which breeds Mucilage of the Blood, whence Ischury and Dy-
sury proceed.

Inincontinence of Urine, or when the Muscle of the Bladder has the Palsy, he holds, that an Acid causes the Strangury or Heat of Urine, in old Men especially. And a Dysury often proceeds from the Stone, an Abscess or Ulcer of the Bladder, &c.

§. 7.

Millis holds, that some-
times the serum sticks so close to the Blood, that it cannot part from it, as in Fevers, which have had a bad *crisis*, Dropsie and Cacochymy, sometimes the serum is diverted another Way, as in Catarrhs, arthritic and scorbutick Defluxions, Dropsies, &c. On the contrary in a *diabetes* and pissing of Blood, he holds, That the se-
rum parts from the Blood, before it has done its office, and it con-
sists in the dissolution and over lax frame of Blood; as the Suppression does in a Concretion and too Compactness of Blood. The Lax-
ness proceeds from an assalt, and the sweet Taste of the Urine is, when some sulphureous Particles

from the Colliquation of the solid Parts are mixt with the Salts.

And he holds that the Stone proceeds from a saline fixt Matter, carried from the Blood in the Kidneys with an acid Humor, which fermenting causes Pain, and when fermented, coagulates into a Stone.

§. 8.

Sylvius ascribes a red, calcu-
lous Urine to Acrimony and Acidity; for he observes, that though the Urine be made clear, yet Gravel will settle, and stick to the Bottom and Sides of the Por,
generally red or yellow, and sel-
dom white. He thinks, that when this Gravel grows bigger in the Kidneys or Bladder, it encrea-
ses gradually, till it grows to a great Stone, unless it be voided before.

He does not ascribe the Concre-
tion of these Stones to heat, but rather thinks that Heat hinders it; because Gravel never settles in the Urine, till the Urine grows cold.

He thinks that Bloody Urine pro-
ceeds from the Breach of some Vessel, in the Kidneys, Ureters, Bladder or *urethra*.

He derives Contenance of Urine from a Palsy or Wound of the *sphincter* Muscle.

He makes the Cause of an Ischury to be, the Straitning of the Ori-
fice of the Bladder, or an Obstructi-
on, Compression or Coalition of the Passage, by the Stone, or a Caruncle, by a Tumor or Inflam-
mation or *Scirrhus* or by a Wound without a ragged Stone or corro-
ding Humors. Or the Bladder cannot contract, because of the Palsy, or of its Fullness and Disten-

tion, by keeping ones Water too long.

The Strangury proceeds from a perpetual Irritation by sharp Humors, or the Stone. An Ulcer proceeds from a Wound, or from Acrimony of Humors.

He derives a *Diabetes* from a sharp Volatil Salt, either received from without or inbred.

§. 9.

THE Cartesians in the Stone do blame either the Abundance or thickness of the Blood, or sharpness of Humors, or acute and angulous Particles of Salts.

In an Ischury and Dysury the Serum is diminished, or the Ferment of the Kidneys is spoiled. Or a Stone, or some viscid Humor, or a *plithora* stops up the Passages.

They derive the Strangury from saline aculeated Particles in the Urine or serum; Pissing of Blood from Solution of Continuity by sharp Particles; and the *Diabetes*, from a Salt precipitating the Blood into a *Serum*.

§. 10.

Our opinion is, That an acid volatil Spirit is the Cause of Coagulation in the Stone. Thus, some Waters purifie whatever is put into them. I keep an acid volatil Spirit by me, which in a short time turns into Stone whatever is put into it. Thus an acid Volatil congeles Sal Ammoniac. If we may believe *Tachenius*, draw the acid volatil Spirit from the Stone, and pour it upon the Matter again, it will reassume its pristine Hardness. But, may some say, if an acid volatil Spirit

breed the Stone, why does it destroy the Stone? It is plain, because the Stone requires a like Dissolvent: for the Dissolvent must be of the same Nature with the dissolved, as in Gums, Resins, and such things, and in the mineral Kingdom we see things are always dissolved in their like.

An Ischury arises from Obstruction of the urinary Passage by a Stone or mucilaginous Matter, or from the spasmodick contraction of the Sphincter by an austere Acid or great Influx of animal Spirits. Or when the Urine is not separated from the Blood, or, if it be separated, is not carried to the Bladder.

The Strangury hath divers both Internal and external Causes, as Acrimony of Urine, Excoriation of the Bladder or the *urethra*, by various Causes, but especially by sharp and corrupt Seed in a virulent *gonorrhoea*.

Inflammation of the Kidneys and Bladder comes generally either from a Plethora or from Acrimony and Thinness of Blood, or from Gravel or the Stone.

An Ulcer in these parts proceeds from an Inflammation, from a sharp Blood or Humors, from a Blow, or from strong Diureticks.

Heat and Sharpness of Urine come from an acid and corrosive Salt, vellicating the urinary Passages.

The Cause of Pissing of Blood is the Breach of some Vessel in the Kidneys or Bladder, by a Stone or Humors.

Incontinence of Urine proceeds from a Relaxation of the Muscle and Nerves tending to it, from Obstruction, Compression, Wound, Ulcer or Inflammation.

The

The Cause of a *Diabetes* is a peculiar Acid precipitating the Blood. I do also blame the Passages from the bottom of the Stomach through the *Omentum*; for by these patent Passages all that is purulent passes immediately. The largeness of the Pores of the Kidneys and their over acid Ferment may contribute much to it. The *Crisis* of a Disease may occasion it. The external Causes are too much Drink, especially acid, Diuretick Food and Physick, Suppression of customary Evacuations, &c.

§. II. Prognostick.

THE Stone in the Kidneys is a grievous Disease, and if it is hereditary, it is incurable; and in old men, according to *Hippocrates*, *aph. 6. s. 6*. The greater and rougher the Stone, the more painful it proves. If the pain cause an Inflammation and Fever, or if the stone wound the substance of the Kidneys, it is dangerous; if the Fit will yield to no Remedies, if the external parts be cold, if the Face be pale and in cold Sweats, with Faintness and a low Pulse, Death is at hand. I have observed it to be a good Sign, when the Urine is at first clear, afterwards grows thick, and leaves Gravel sticking to the Pot. When the stone sticks in the Ureters, the pain is most exquisite, and the Patient generally dies.

Boys are most subject to the Stone in the Bladder, and old Men to the Stone in the Kidneys. If the Stone in the Bladder be big, there is no other way for Cure, but cutting by a skilful Lichotomist.

Fat, gross and sedentary People are most subject to the Stone. Only Women, because of the Benefit of their Passages, and of their *Menses*, are less liable to it than Men.

If an *Ischury* proceed either from the Secretion of Urine being hurt, or from a pottick Austerity, or from a great Stone stopping the Ureters, or from a Palsy of the Nerves, or from a Hurt in the spine, *os sacrum* or Loins, or from a Disease in the *sphincter* Muscle, it is bad. It is also a very bad Sign, if a *tenesmus*, or Hiccough come upon this Disease, or if a fetid urinous Smell come out at the Mouth or Nose. On the contrary it is easier to cure, if it come from external Causes, or from some slighter internal.

If a Strangury come from purulent Kidneys, it proves mortal; if from drinking too much or new Drink, there is no great danger; for *Hippocrates* says *s. 7. aph. 48*. *Drinking of strong Wine and Letting of Blood cures the Dropping and Difficulty of urine.*

The event of an Inflammation is dubious and dangerous. When it turns to an Abscess a slow Fever follows and an incurable Ulcer, which attends a Man to his grave. It is a good Sign, when the Hemorrhoids open of themselves or when one bleeds at the Nose, or when Women have their *Menses*; also if in the increase of the Disease a white and glutinous Sediment appear in the Urine, with an abatement of other Symptoms.

Ulcers in the Kidneys and Bladder are difficultly cured in old Men.

Pissing of Blood is dangerous, because it may breed a Dropsie or

Consumption, or if it do not, an Ulcer; and if it be not impossible, yet it is difficult to be cured.

Incontinence of Urine and the *Diabetes* are difficult to cure; for if an incontinence be inveterate and happen to old People, or come from a Palsy, or any other grievous Disease, it is incurable. But when it happens to Children or people in full Strength, or from an external Cause, or from deep Sleep; by change of Diet and in process of time it may be cured.

Young People are most subject to a *Diabetes*, and is the easiest to cure in them. But old People may have it; and in them it is incurable, or if it be inveterate. Now and then it is cured only by Alteration of Diet.

§. 12. *Dietetick Cure.*

IN the Stone, and in all Diseases of the Kidneys and Bladder the *Air* must be clear and temperate. The *Meat* must be easie of Digestion, and lubricitating. The *Drink* must be a small white Wine, especially a *Moselle*.

In Pissing of Blood, Incontinence of Urine and a *Diabetes* the Diet must be more astringent. The *Air* must be dry and serene. The *Food* must be inraassating and astringent, but of good Juice. *Drink* must be sparing; a little red astringent Wine may be allowed, and some Martial Astringent may be put in it. Abstain from Drink, as much as may be, for temperance is the best Cure. *Rest* must be enjoyed. *Sleep* must be moderate, one must not lie on his Back. The *excreta* and *retenta* must be according to Nature. The *Passions* of

the *Mind* must be moderate. Intemperance in *Venus* is always bad.

§. 13. *Pharmaceutick Cure.*

THE Galenists are for inciding and evacuating the gross and pituitous Humor, that turns to the Stone. In the Fit they give a Clyster, and out of it they purge. In the Fit they commend Narcotics, and Baths. They give fat Brothes, oily things and Emulsions. When the Pain is abated they give Lithontripicks.

In an Inflammation of the Kidneys or Bladder they use the same Method as in other internal Inflammations.

In an Ulcer of these parts they give Vulneraries.

In bloody Urine they check the Efflux of Blood, they heal the Breach of the Vessels, and they strengthen the Parts.

They cure an Ichory and Strangury, by altering the Intemperature, removing the Stone, and thick phlegm, and by altering the Diet, that it may not breed again. To this end they use Lithontripicks, and they strengthen the Parts.

In a *Diabetes* they prepare and then purge, they make Revulsion of the Humors, and then amend the Intemperature of the Kidneys and Liver, and strengthen them.

They cure Incontinence of Urine by Antiparalyticks, giving now and then Phlegmagogues.

§. 14.

IN the Cure of the Stone the *Paracelsists* use many Specificks. *Paracelsus* cures the Dysury and Strangury

Strangury with Spirit of Salt and Spirit of Juniper.

In an Ischury he commends Spirit and Tincture of Nitre, Antimony and Salt.

He cures a *Diabetes* by Anodynes alone.

§. 15.

Helmont thinks a Liquor may be had, which will without Offence dissolve Gravel or the Stone in the Stomach. But to talk of breaking a confirmed Stone in the Bladder is but the Bragging of Empiricks, and nothing else. For a Physician can only force the Stone by Diureticks, and loosen the Ways with Moisteners.

In an Ischury to stimulate the *Archens*, he gives Diureticks.

He cures an Ulcer by Vulneraries.

In the Strangury he saturates the predominant Acidity with *Alkalies*.

In a *Diabetes* he gives Anodynes.

§. 16.

Wallis has several Diureticks, whose *Basis* is a volatil Salt; and several, whose *Basis* is an alkalifate Salt.

In violent Ischuries he uses testaceous Powders.

He has some Diureticks whose *Basis* is a fixt Salt, and some whose *Basis* is an Acid.

In the Cure of a *Diabetes* his intentions are, 1. To check the Fusion of the Blood by incrassating Medicines. 2. To recover the Ancient *crasis* of the Blood. 3. To incrassate, cool and qualifie

by Hypnoticks. He commends a Milk Diet, Emulsions, and Medicines endued with a fixt Salt.

§. 17.

Splittus says, the Stone must either be expelled or dissolved. He expels by Diureticks; And he says 10 or 12 Drops of Spirit of Nitre in a Decoction of Grass dissolve the Stone in the Bladder.

If gross Phlegm cause an Ischury by stopping the *urethra*, then he uses a *Catheter* or a Syringe.

In a Dysury, when the Orifice is exulcerated or corroded, he magnifies several Sorts of Balsams of Sulphur.

In the Strangury he commends testaceous Powders and volatil Salts.

In Ulcers of those parts he commends Balsam of Sulphur.

In Pissing of Blood he commends Vulneraries.

He says, the cure of a *Diabetes* consists in counterpoising the sharp volatil Salt by oleous things and Emulsions, and by Milk.

§. 18.

THE Cartesians in the Stone let Blood, give Diureticks and Clysters. In the Strangury they give Precipitants, things to imbibe an Acid, Anodynes, &c. In a *Diabetes* they commend Astringents and Absorbents mixt with Opiates, to imbibe the vicious Salt, which precipitates the Blood into *serum*.

§ 19.

IN the Stone in the Kidneys we give a milk Clyster, which does as well as one of many Herbs or one of Milk, Turpentine and the Yolk of an Egg. Salt must not be put in them, because it is good to keep them long. Fomentations, Ointments and Baths may be used. If any thing can be expelled, we may give Diureticks.

Wedelius uses this following ;

Take of *Sperma ceti*, Crabs-eyes each half a Drachm, Cinnabar of Antimony one Scruple, volatile Salt of Amber, four Grains, *laudanum opiatum*, half a Grain, Trochiscs of *albekengi* with *opium* half a Scruple. Mix them. Make a Powder for four Doses.

In the fit when the Pain is violent, an Emulsion, or some Opiate will be good.

Out of the Fit we must endeavour to extirpate the Coagulator. And we must always have regard to the Stomach. Therefore Stomachick Medicines will be good. Some say, there is nothing better, either for the Cure or Prevention of the Stone, than this Antinephritic following ;

Take of Seed of Anise, Parsly, Dill, Leaves of Saxifrage each half an Ounce, Pike's Jaw, Crabs Eyes, Seeds of Hips each one Ounce. Mix them. Make a Powder. The Dose one Drachm three days before the New of the Moon,

In the Stone of the Bladder the same Cure must be used, a Clyster may be given, and Lithontripticks inwardly. When the Stone is large, there is no way but Cutting.

In an Inflammation cooling things are good inwardly and outwardly.

Ulcers proceeding from *cantharides* are best cured by Milk with mucilaginous Vulneraries boyled therein.

And in all Ulcers from sharp Humors Vulneraries are good.

In an Ischury search must be made with a wax Candle. And in this case the same Method is proper as in the Stone. Diureticks may be given, and warm things must be applied to the Paps. These are excellent Pills ;

Take of *Venice* Turpentine dried a little at the Fire two Drachms, Juice of Liquorish, Powder of the same each one Scruple. Mix them. Make Pills, as big as Pease, roll them in Powder of *millepedes*.

In the Strangury Acrimony must be corrected ; and all things are good, that are good in the Stone. A Purge of Cassia, Jalap and Sugar may be given in a *Bolus*.

In Pissing of Blood, 1. Let blood, 2. Give tempering, incrassating, anodyne, consolidating, and astringent Medicines. Agrimony is the best of Vegetables ; of which and Flowers of St. John's wort a Traumatick Essence may be made. *Laudanum opiatum* is excellent.

If Incontinence of Urine arise from the Palsy of the Nerves, nervine Ointments and Astringents must

must be used. If from the Laxity of the *Sphincter*, and over Extens-
ion of the Fibres, heating, drying,
astringent and antiparalitic Medic-
ines will be proper. The Speci-
ficks are Mastich Wood, Hen's
Gizzards, Ashes of a Hedgehog, the
Womb of a Sow boyled or roasted
and eaten. A Goat's Bladder dri-
ed in an Oven, a Drachm of it gi-
ven in Powder, a Fish found in the
Belly of a Pike, Powder of a burnt
Toad, *Micdulla lapidis*, *Lignum aloes*.

In a *diabetes* all gentle astrin-
gent Medicines are proper. If
we purge, it must be gently. Opi-
ates are good. Diaphoreticks,
which are also Diureticks, must be
avoided. Cooling Clysters are
good. Mucilaginous things, as
Gums are proper. Milk, or Whey,
wherein Flints or Steel have been
quenched, are good. Externally
cooling things may be applied to
the Loins.

K k 4

CHAP.

CHAP. XIV.

Of the fixt and running Gout.

§. I.

THE Gout is called *arthritis*, *passio arthritica*, by Pliny *morbus articularis*, by Celsus *dolor articulo-rum*, by Paracelsus *morbus tartareus*, some have jocularly called it, and aptly enough *dominus morborum* and *morbus dominorum*, it is barbarously called *Gutta*, from whence perhaps came our *Gout*, because it is caused *ex defluxu guttatim facto*. It may be defined to be, a Pain of a Joynt, and of the parts about the joynt, arising from some extravasated acid Humor, which irritates the Fibres encompassing the Joynt.

Difference.

THE Gout is a general name, whereof there are four sorts. 1. *Chiragra*, the Gout in the Hands. 2. *Gonagra*, in the Knees. 3. *Iscbias*, the Sciatica or Gout in the Hips. 4. *Podagra*, the Gout in the Feet. But there is no part free from it. We may add a fifth sort, called *arthritis vaga* or the running Gout, when the Pain is not fixt in any one place, but runs from one

part to another. A scorbutick Pain removes, but an arthritick pricks, corrodes and stretches the Limbs. The Gout and Stone are so near allied, that they seem to be of the same extraction. He that is troubled with the one is generally troubled with the other; and the one turns into the other.

Some Gouts, as most tartareous Diseases are, is hereditary from Parent to Child. Some are adventitious which come from various Causes in the Body.

§. 2. *Part affected.*

SOME take the Brain for the Original of this Disease, others the Liver, *Pancreas* and Glands. Some as *Helmont* and *Sydenham* in his late tract, accuse the Stomach. In our Opinion all the sensible, nervous and membranous parts are the Subject of it. but especially the *peritoneum*. *Cutlitts* concludes from the principal Symptom, viz. Pain, that it is a Disease of the Head and nervous kind. So *Cornelius Piso*, and *Fernelius* place the Cause in the Head.

§. 3. *Diagnostick.*

When a Gout is curing, there is a Numbness in the Part, or a more exquisite Sensibleness than usual, which makes it sensible of the least Touch, a Heat and Redness sometimes with a Swelling, sometimes without; a Fever sometimes preceeds. When it is come, the Patient feels an inflammatory Pain and a Swelling in the Joynt, and he feels as if his Body were stung with Ants. If it come in the Hands, all things feel thicker than they are. It usually takes the Great Toe of the left Foot first, and thence it creeps up to the Knees and other Parts. There is impotency of Motion. They have a Fever either before or in the Gout, without a cold Fit, with the Head-ach, Thirst, Faintness, and Loss of Appetite. In the Urine of Gouty Persons usually red Gravel sticks to the Sides of the Pot. In the Disease, when inveterate Knots appear. In a scorbutick Gout, spots like Flea-bites appear, as if they were stung with Nettles. In the *sciatica* there is a Pain on that Side, and they cannot stir that Leg. The wandring or running Gout is like an *ignis fatuus* sometimes here, sometimes there, and when it abates a little, it returns unexpectedly.

§. 4. *Cause.*

THE Galenists say, the propinuous Cause is an Humor and weakness of the Part; they consider four things, the Humor Influent, the part Mandant, the part Recipient and the Way the Fluxion comes, They say the

part Recipient is the Joynts or Coarticulation of the Bones, in which they presuppose an infirmity, otherwise they would not receive the Humors. Some say, the part Mandant is one, some another, and some say the whole Body is such. They say the Matter is only the Excrement of the Brain. The Way by which the Humors flows they think, is not only between the Flesh and Skin (though this is most frequent,) but by the Continuity of Membranes, Muscles, Nerves, Veins, or Arteries. The antecedent Causes are all such things as may breed such Humors.

§ 5.

Petræus makes the Gout to be a *tartareous Disease*, or *Exaltation of all mineral Salt*, or *of an acid Liqueur in the Synovia*. And the Pain in the Gout differs according to the Difference of the various Salts, whence it proceeds.

§. 6.

Helmont accuses the Stomach principally, and proves, that the Gout proceeds from an Acid infecting the *Archeus*. When this Acidity is got into the *Synovia*, it curdles like Cheese and grows opaque. Now the *Synovia* is nothing but a pellucid Mucilage; such as runs out of a Calf's Feet when they are cut off. And this *Synovia* hardened is the chalky Matter so familiar to gouty People.

§. 7.

Allis holds, that the Cause of the Gout is never Blood, because arthritick Swellings

Swellings never suppurate, but it is a mutual Effervescence in all the Humors, proceeding chiefly from the Acidity of the nervous Juice, and saline lixivial Feculences, which are so corrosive, that lay but a Worm on the place pained, and it will dy.

§. 8.

Sebius derives it from the Acidity of the pancreatick Juice, and some fault in the Bile and salival Humor meeting in the Guts.

§. 9.

The Cartesians ascribe it to the angular Figures of divers Salts in the Blood, which being discharged upon a Joynt, cannot pass the Pores thereabout, and so vellicate the Fibres and cause Pain.

§. 10.

IN this Disease we reckon the fault lies in the ill Digestion of Food in the Stomach, *Viscera* and Glands designed for Digestion, by acid and lixivial Particles. Now the Matter of these acid and lixivial particles is a volatil serum in the Arteries, an ill digested Chyle, or a stagnating lymph, afterwards extravasated, and in time forced into the habit of the Body, which causes the Swelling. The tormenting Acid sometimes coagulates the Blood, and fixes the Humors into a Chalk in the Joynts.

Among the procatarrick Causes the chief is Wine, the Tartar whereof sticks in drunkards fingers. *Venus*, Studies, and Grief may occasion the Gout. For few Fools are troubled with it.

§. 11. Prognostick.

THE event of this Disease is uncertain, both in regard of the Fit and the whole course of the Disease: For a Fit sometimes lasts long, at another time it goes off quickly. When the Gout is knotry, it is hard to cure.

Tollere nodum nescit medicina podagram.

An hereditary Gout is reckoned incurable. *Hippocrates* says, That before the use of *Venus* men have not the Gout, nor Women before their *menfes* leave them. Fools are free from it. It is good to have the Hemorrhoids. The Gout is most pertinacious in a scorbutick or cachectick Body, or in one weakened by a precedent Disease. In old men it sometimes occasions the Palsy. If the Gout settle in the Nape of the Neck, at the beginning of the spinal Marrow, it kills the Patient. Sometimes there ensue terrible Symptoms, Heart-burn, Shortness of Breath, Swooning, Convulsions, Palsy, Apoplexy and Madness. Young men, if they be not much given to Wine and Women, may be cured by proper Remedies. But there are few Patients to be met with, that will observe Rules. The Gout and Stone often turn one into the other.

§. 12. Dietetick Cure.

THE Air must be serene, pure and temperate. Juniper burnt is good to correct it, and so are Powders for Fluxions burnt. Meat must be easy of Digestion, and

And all salt Meats must be avoided. The *Drink* must be Beer well wrought, or Sydenham's Decoction. *Wine* must be very good and a little of it must be used, otherwise none at all. *Venus* must be avoided. *Sleep and Watching* must be moderate. *Exercises*, as Riding in a Coach or on Horse-back, is good, and let not a man, if he can help it, confine himself to his Chair. The *Mind* must be kept cheerful with good Company and Musick. For they report *Limenius*, a Musician of *Thebes*, that by the sweetness of his playing he cured People: *Cardan* mentions him. But our Musick now adays is not of such virtue. The Patient must not study too much. The *excreta* and *retenta* must be agreeable to Nature.

§. 13. *Pharmaceutick Cure.*

THE *Galenists* give Clysters, then they give Purgers of Phlegm, Bile or Melancholy, which soever it is that offends; or mixt, if the Humors are mixt. When they are prepared, they purge with Medicines proper for the Humors, and with Arthriticks. Sometimes they vomit. If Blood abound, they let Blood. They commend Frictions, Ligatures, and Potential Cauterics. They give Sweats. They use dissolving, discutient and emollient Medicines. Last of all they apply strengthening things to the Part.

§. 14.

Præcelsus says, three things are requisite to the perfect Cure of the Gout, Purgings, Opening, and giving Specificks.

§. 15.

Helmout says, That not only the Acidity must be looked after, but the seminal Character of the Gout must be removed from the Spirit of Life.

§. 16.

Ullis, who reckons this among the Diseases of the Head, has these two curative Intentions. 1. To take away the Solution of Continuity. 2. To check the irritation of the Fibres, and the incandescence of the Spirits therein. To discuss the Matter already impacted, he commends Evacuators and Alteratives. He applies a defensive Plaster to the Part. He gives Vomits. He gives restaceous Powders in the Fit, and Powders of Sharp Vegetables, which are alexeterick in this Disease. He uses Anodynes outwardly, and in extremity of Pain, Narcoticks. He applies Fomentations, Bags, Plasters. Sometimes he gives Opium inwardly. For prevention every Spring and Autumn he purges or vomits, and at some distance of time repeats the same thing. He bleeds or opens the Hemorrhoids. He advises Issues in the Arms and between the Shoulders. He gives altering Antidotes made of arthritick Medicines endued with a Volatile Salt and Balsamick Sulphur, and bitter and astringent things, such as

Ger.

Germander, Groundpine, Centaury. Root of Gentian and *aristolochia*. He advises a Diet Drink of the Woods, Ivory, Harts-horn, &c. He likewise advises a Milk Diet for three or four Months, taking no other food morning nor evening but Milk warm from the Cow; about noon the Patient may eat Oatmeal or Barley Grewel with a little Bread in it. But this Diet will not agree with all Men.

§. 17.

Sylvius, to correct the acid and lixivial Acrimony, uses Narcoticks and Anodynes. When an Acid alone offends, he commends fixt lixivial Sales, and volatils also. When the Humors are turgent he purges or vomits. Then he gives Diureticks and Sudorificks. He applies divers topical Medicines. When the part is weak, he cures it by Medicines, that have a volatil Spirit and an aromatick Oyl in them.

§. 18.

The Cartesians make dull the angular and saline Particles. They evacuate, and strengthen.

§. 19.

Our opinion is, that in a Fit of the Gout. 1. Pain must be asswaged. 2. Strength maintained. Adodynes and Opiates assuage pain, inwardly and outwardly. We must then abstain wholly from Purges, because they would exasperate. For Prevention I use to give *Sydenham's* Electuary.

Take of Roors of *Angelica*, *calamus aromaticus*, Masterwort, Elecampane, Leaves of Wormwood, lesser Centaury, white Horehound, Germander, Groundpine, *Scordium*, Calamint, Feverfew, Meadow Saxifrage, *St. Johns* Wort, Golden-rod, *Mother of Thyme, Mint, Sage, Penny-royal, Southernwood, Flowers of Chamomil, Tansey, Lily Conval, Saffron, Seed of Treacle, Mustard, Garden Scurvy Grass, Caraway, and Juniper Berries. Let them all be gathered in their proper Seasons, kept by in paper Bags, and powdered. Let four Ounces of each of them be made into an Electuary with a Syrup made of Canary Wine and Sugar. Let him take two Drachms morning and evening. Or in defect of this;

Take of Conserve of Garden Scurvy Grass one Ounce and an half, Roman Wormwood and the yellow of Orange Peel each one Ounce, candied *Angelica*, candied Nutmeg each half an Ounce, *Venice* Treacle three Drachms, *pulvis ari composuit* two Drachms. With a sufficient quantity of Syrup of Oranges make an Electuary. Take two Drachms twice a day, drinking five or six Spoonfuls of the following Water after it;

Take of Horse radish Root sliced three Ounces, Garden Scurvy-Grass twelve Handfuls, Water Cresses, Brooklime, Sage, Mint, each four Handfuls, six Orange peels, two Nutmegs bruised, *Brunswick* Mum six Quarts. Draw off by a Still four Quarts for Use,

All

All Antiscorbuticks are good, but especially Buckbean: for I have had experience of it.

I am not for Bleeding. Blisters are proper, and actual Cauteries with *Moxa*. *Hippocrates* burnt with raw Flax. Baths and Plasters are good.

Out of the Fit, regard must be had to the antecedent Cause, namely, a sharp extravasated *lymph*a and the weakness of the Joynts. The *lymph*a may be corrected with Juice of Birch, the foresaid Electuary, and with Buck bean variously prepared. A strict Diet must be kept.

A Rheumatism is reckoned among these Diseases, and is cured much like the Gout: But in it Bleeding is proper.

In the running Scorburiick Gout, it is good to take a Meal-sack, whose Pores are filled with Meal, and heat it, and wrap the Body in it, for it is emollient and asswages Pain. The best course is a sudorifick Diet, for a Cure by Sweat holds freest from Relapse, which is worse than the original Disease, according to the *Arabian Aphorism*, *Omnis recidiva est deterior sua radice.*

CHAP.

C H A P. XV.

Of the Venereal Disease, Gonorrhœa and Nocturnal Pollution.

§. I.

SOME call the Venereal Disease the French disease; because when Charles the eighth of France laid siege to Naples, it was first observed in Italy in their Camp. Others say, that in the Year 1495. when Christopher Columbus with fifteen hundred men arrived at Santo Domingo in the West-Indies, where the People had the Pox, the Spaniards laid with the Women, and so were infected; and when they returned, gave it to others at Naples, and so it came to be called *morbus Neopolitanus*. Some say, the Peruvian Indians used to lie with all manner of Beasts, and by that diversity contracted a strange Ferment. Helmont (speaking of this Disease) brings in a Comparison of a Horse sick of Worms, how he infects other Horses, and he thinks some wicked Sodomite had to do with such a Horse and so came the Disease. *Casalpinus l. 4. Art. Med.* refers the first Contagion to Greek Wine infected with the Blood of leprous persons, sold by Spaniards to the French at a certain Town of Mount Vesuvius,

in the famous Expedition to Naples. Paracelsus derives the Original of this Disease, from a leprous French Man's lying with a Whore full of Buboës in the Exaltation of Venus at which time also her Menfes were just come. These infected all they came near. And so the Pox was bred between Buboës and a Leprosie, as a Mule is got between a Horse and an Ass. Some call it *mentagra* and *puhindagra* and *morbus Indicus*.

This is a contagious Disease: got most usually by lying carnally with an infected Person. But it may be got other ways: The Mother may give it to her Child; and the Child to the Nurse. It may be got by kissing or lying in bed together, as by any contact of an infected Body. Some think it may be got by lying with a menstruous Woman, whether she be sound or diseased. But this is false.

It may be described to be a Dyscrasie of all the Humors in the Body, consisting in a volatil corrosive Acidity.

A Gonorrhœa is either virulent or simple. A virulent one may follow the simple, if it last long, because

cause at last the white seminal Matter turns yellow and virulent. But it is usually got by coition. A simple *Gonorrhœa* is when the seed, that comes (which is improperly called Seed) is watry, thin and white, like Whites of Eggs, without Pain, or Lust, yet if it continue, it will waste the Body, and weaken the genital Parts.

Nocturnal Pollution is an Excretion of Seed with pleasure in ones Sleep or Dream.

§. 2. Part affected.

SPIBITUS takes the part affected in the Venereal Disease to be the Glands, formerly they thought it to be the Liver. Some think it is the Spleen, others the Kidneys, others the Brain. I think the Subject is all the lymphatick Vessels and in a confirmed one the whole arterious, venous and nervous kind.

In a *Gonorrhœa* and Nocturnal Pollution the lymphatick and sanguineous Mass are affected, but chiefly the Vesicles wherein the seed is prepared, and kept for Ejaculation, and when they are corroded, the seed must be evasated.

§. 3. Diagnostick.

THE chief Sign is a virulent *Gonorrhœa*, there is a Dulness of Body, Pain in the Bones, little Ulcers in the part first infected. When it is confirmed, there is a grievous Head-ach, Pains of the Arms and Legs between the Joynts, growing worse at night, Heat and Sores in the Throat and Palate, Hoarseness. There are sometimes Convulsions, Epilepsies, Madness, Melancholy, Pustules in the Head,

Fore-head, Nose, Lips, and stinking Breath. There are *tophi* and Tubercles in the Arms and Shin-bones. And to hide their Disease, some will call it the Head-ach, others the Scurvy, a Cachexy, a Fever or Itch. When the Disease is desperate, the Hair falls, yea, off the very Beard and Eye-brows the Teeth fall out, they have the Strangury; and sometimes their genitals are quite eaten away. There are Buboës in the Groin, *condilomata* both in Women's anus and *Pudendum* and in Mens Prepuce. There are several other Signs but these may suffice.

The principal signs of a virulent *Gonorrhœa* are Heat and Pain in making Water; the Urine is white with strings in it, there is a continual Erection and Irritation to *Venus*, there are some Ulcerous Pustules in the Privities, and other Signs before mentioned. A *Gonorrhœa* may be known to be malignant by the Putrefaction and stink, and by the yellow, green and corroding Matter that comes away.

The pathognomonick signs of nocturnal Pollution are Venereal Dreams with the Excretion of Seed, especially when one lies on his back.

§. 4. Cause.

SOME of the old way lay the Cause of the Venereal Disease upon the Humors; others upon an occult Quality. They make the Cause of a *Gonorrhœa* to be a purituous Cacochymy. They make the immediate cause of Nocturnal Pollution to be the Irritation of the expulsive Faculty by bad seed, and the mediæte, an either humoral or stultent.

§. 5.

Heracellus says, this Disease is bred by Sublimation of Mercury, by Heat, not excluding the Salt: for Mercury has its Acrimony and Corrosivenes from Salt, and a volatil Salt is never separable from Mercury.

In a *Gonorrhæa* he accuses a dissolved Salt.

§. 6.

Helmont makes the Cause of the Venereal Diseases to be a poysonous Ferment.

§. 7.

Sylvius, derives it from the Acrimony of an acid Spirit, and partly from a lixivial Salt.

§. 8.

THE Cartesians blame sharp, pungent, saline Particles in the Humors and Seed, and they derive all the Symptoms from thence.

§. 9.

We think, that the poyson in the Venereal Disease does principally consist in a volatil Acidity, but there is also a viscid Venereal Ferment joyned with that volatil Acrimony. This is the Cause of a virulent *Gonorrhæa*. And in nocturnal Pollutions it is a saline volatil Vertue in the Seed which causes Titillation.

§. 10. Prognostick.

THE Venereal disease and a *gonorrhæa*, the newer they are, the more easily they are cured. They are more difficult to cure in a diseased or foul Body, than in a healthy Constitution. The Pox with hoarseness is hard to cure; And a virulent *Gonorrhæa* with Swelling of the Privities, and stinking Seed, or if there be Ulcers or Caruncles in the *urethra*, is hard to cure. These Diseases make people barren. They are bad in old men. Women are not so much troubled with them, because they have the benefit of their *ministra*. They are best cured in a hot Country or Season. A virulent *Gonorrhæa* turns sometimes to the Pox, and sometimes to a simple *Gonorrhæa*, which proves difficult to cure.

A simple *gonorrhæa* and Nocturnal Pollution are not dangerous, but oftentimes tedious Diseases.

§. 11. Dietetick Cure.

The Air must be hot, pure and serene. The Meat Must be easie of Digestion, grateful and sweet, all salt and sharp Meats must be avoided. Drink must be a Decoction of the Woods and Roots. Or Physick Ale well wrought. Wine is very bad in this Case.

Sleep must be moderate. Lie not on your Back, lest the Vessels about the Kidneys grow hot. In a *Gonorrhæa* it is best to lie with ones Head high, and then he cannot so easily turn on his Back. I have known several cured so. Feather-Beds must not be lain on, but Quilts. Use

Use not too much Exercise.

Let the *excreta* and *retenta* be kept in their natural State.

The *Passions of the Mind* must be kept in order. They that are troubled with Nocturnal Pollutions must be advised to marry.

§. 12. Pharmaceutick Cure.

THE Galenists, if the Venereal Disease be new, and if there be a *plethora*, let Blood, and give a gentle Purge or a Clyster; then they prepare gross Humors, and purge usually with extract of black Hellebore. Afterwards they sweat. If it is radicated, after they have bled and purged, they give a Decoction of *guajacum*, *sarsaparilla*, *china* and *sassafras*. They drink it warm in a Stove, or in Bed well covered with Clothes, to sweat well they change their Linen, dry themselves well, walk a little in their Chamber, and four or five Hours after they have taken the Medicine, they go to Dinner.

In Nocturnal Pollutions, having premised Universals, they go to Astringents internal and external, not omitting Vulneraries.

§. 13.

Paracelsus l. 2. de vita longa, c. 12. observes three things, Purging, Cure, and Conservation. He purges with Mercury. He cures with *xylobeckum*. In a *Gonorrhoea* he purges with Milk of Turpentine, which is made thus.

Take of turpentine one Spoonful, the white of an Egg, Wine two Spoonfuls. Beat them together in a Pewter Plate.

He stops it with such Medicines as he stops other fluxes withal.

§. 14.

Helmont thinks, the Venereal Disease can only be cured by Salivation with Mercury. He magnifies his *Mercurius diaphoreticus* in this Disease. In a *Gonorrhoea* and Nocturnal Pollution he commends divers Diaphoreticks made of Mercury, and Vulneraries, to imbibes an acid.

§. 15.

Sylvius has a twofold Cure of the Venereal Disease; an universal and a particular. The universal consists in correcting the acid Spirit, and in expelling it by convenient Ways, which he does, 1. By spirituous volatils. 2. By oleous and fat things. 3. By lixivial fixt Salts. 4. By watry things. Then he evacuates by Salivation, Sweat, and Purging with Phlegmogogues. Mercury and Colocynthis are his chiefest Medicines.

The particular cure belongs to the Symptoms. A *Gonorrhoea* is cured by the same Medicines. And the rest of the Symptoms are cured by Antivenereals and such things as you may meet with in their proper Chapters.

§. 16.

The Cartesians use the same Medicines, to blunt their purgent saline Particles.

§. 17.

Our Method of Cure has three Indications. 1. The Depuration of the Blood, by throwing off the Venereal Poyson, namely the corrupt Acid. 2. The Preservation of the Parts from Corrosion by this Acid. 3. The Mitigation of the Symptoms and support of Strength. The Blood is depurated 1. By volatil, balsamick Saks. 2. By mild aromarick Oyls. 3. By terrene and metallick Medicines, or Medicines endued with a volatil Salt, or resinous things. The Poyson is thrown off by those things and by Diaphoreticks, Diureticks, and Salivation.

If the Body is Cachectick we may begin with Purges; and Antimonials, that Purge downwards, are here Specificks.

When the Body is Purged we must give appropriate Sudorificks.

Take of shavings of Wood of *guaiacum* six Ounces, Sassafras two Ounces, the Bark of both each one Ounce, Root of *China*, *Sarsaparilla* each ten Drachms, Raisins stoned six Drachms, Liquorice scraped one Ounce. Boyl them in fair Water. To forty Ounces of the colature add of simple Treacle water one Ounce, Syrap of Buckbean one Ounce and an Half. Mix them. The Dose is four Ounces, three or four times a day, and sweat must be expected.

Borillas extols crude Antimony.

Take of crude Antimony, *sarsaparilla* each six Ounces. Tie the

Antimony in a rag, put it and the *sassa* into three Pottles of Water, wherein the green Shells and husks of forty green Nuts must be hanged. Boyl them to a third part. Let the Patient drink of it after Meal, Morning, Noon, and Night.

The Diet Drink may be continued for some days, yea weeks, and a smaller Decoction may be made of the remainder, which may serve instead of Beer. When the Patient has done Sweating, let him be wiped with warm Clothes, give him a Cordial, and then he may go into the open Air about Noon. Every ninth day he must purge. The Diet Drink must be continued till the Patient come to himself and all the Symptoms are gone. A spare Diet must be kept all the time. I communicate this as an experiment to the curious, I have Cured several Patients by giving between half and a whole Drachm of the true fat of Vipers in Conserve of Roses or Fumitory for some time. Gum *guaiaci* between half a Scruple and a Scruple is a good Remedy.

Salivation may be raised in this manner.

Take of *turpetum minerale* between three and five Grains, *Mercurius dulcis* six Grains. Make a Powder. Give it for several days, till it raises a Salivation.

Or it may be raised externally;

Take of Mercury killed with fasting spiritule, with Oyl of Turpentine, or Lillies, or Worms two Ounces, *unguentum de Althaa Fernellii* half an Ounce, Oyl of Amber

Amber one Drachm. Make an Oyntment, wherewith the Joynts and Soles of the Feet may be rubbed, after the places have been first rubbed with a cloth.

This anointing may be performed once a day in the morning, an hour after one has eaten an Egg, or sup't a little Broth. It is safer to salivate by internal than external Medicines.

While the Salivation lasts, they must neither change the hot House, nor Bed, nor Shirt, and they must forbear Purging and Bleeding. Salivation usually arises about the Fourth or Fifth day, sometimes not till the Fourteenth, and when it begins it is usually over in Fifteen days, all which time the Patient must be kept with Chicken broth, &c.

For their ordinary drink Patients may drink a Decoction of the Woods.

We will briefly treat of the Symptoms. A *tenigo* may be Cured with Oyntment of Roses and *Mercurius dulcis*.

A *bubo* in the Groin, with *emplastrum Vigonis cum Mercurio*.

The nodes, by discutient, dissolving Plasters.

This is good for breakings out;

Take of native cinnabar, *sacchar. tindur. sperma ceti*, camphore each a like quantity. With balsam of Peru make a Liniment.

In rottenness of Bones phlegm of Vitriol, not over sharp, is good.

Ulcers in the *sinus muliebri* may be cured with *unguentum dispermpholygos* or *rosatum* with *Mercurius dulcis* and *saccharum Saturni*. *unguentum de Minio* mixt with an amal-

gama of Saturn and *Mercury* is good to heal.

In Pains of the Limbs *emplastrum Vigonis* mixt with *emplastrum nervinum* and Balsam of Peru, is good.

In a Venereal Caruncle in the *urethra*, Universals premised, this Liniment will be proper;

Take of Honey burnt to ashes, Tutory, prepared, fresh Butter, washed in Plantain water to get out the Salt, yellow wax each an Ounce, burnt Alum half a Drachm. Mix them, make a Liniment,

With this Liniment spread a rag, covered on the inside with white Wax, of a convenient length and wideness, with a long thread run throw it, apply it to the Caruncle in the urinary Passage.

Ulcers in the Mouth, and anus may be cured with *aqua theriacalis camphorata*, or *balsamus sulphuris anisatus*.

The cure of a virulent gonorrhoea differs not much from the cure of the Venereal distemper. First therefore he may purge;

Take of Powder of Rhubarb twelve Grains, Venice turpentine two Scruples, *Mercurius dulcis* twelve Grains. Make them into Pills. For strong People a grain or two of *Mercurius vita* may be added.

And then he may continue in a Diet Drink, as formerly.

In a simple Gonorrhoea *Mercurius dulcis* is good. The Dose may be extended to fifteen Grains. A Drachm of boyled Turpentine in the yolk of an Egg is good. Then gentle Astringents will be proper. Gum, Amber, Balsam of copaira, cuttle

cattle bone, Tincture of steel, *tinctura antiphtisica*, &c. are specifics.

The Loyns, *perineum*, *scrotum* and *anus* may be anointed with some proper Ointment.

For pain, the *penis* may be dipt in sweet Milk.

Injections also of milk with proper things boyl'd in it, are good.

In Nocturnal Pollutions, the aforesaid universals premised, Diaphoreticks, Absorbents and Precipitators may be given.

Moderate Astringent Specificks are proper, such as *tinctura antiphtisica*, Tincture of Coral with phlegm of Vitriol, &c.

If these will not do, we must have recourse to Opiates. Our *theriaca coelestis* and a little Turpentine, taken often, cures the *gonorrhoea* both Simple and Virulent.

Externals are of use in this Case, especially cold things applied to the Loins, as Purslain, *agnus castus*, Strawberry Leaves, a plate of Lead, *unguentum vesperigerans Galeni*, *album camphoratum*, *rosatum*, &c. *Cerasum santalinum* spread upon Leather, and applied to the region of the Liver, is commended by *Timaeus* and others.

BOOK